Examining learner-centered coach education

Kyle Paquette

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School of Human Kinetics Faculty of Health Sciences University of Ottawa

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Abstract

At the center of all coach education initiatives and programming is the coach. Although the study of traditional coach education programs has yielded rather discouraging findings, coach education can be significant in its contribution to coach development when coaches are addressed as learners and their unique learning needs and orientations are recognized and prioritized. Indeed, the conversation has shifted to the application of learner-centered (LC) approaches. The purpose of this doctoral dissertation was twofold: to explore the contribution of using the LC theory, including a well-established learner-centered teaching (LCT) framework, to support coach education; and to examine the LC initiatives of a coach education program. An immersion in the LC literature was followed by the collection of multiple sources of data: program documents (n = 5), coach survey data, in-depth participant interviews (coach development administrators, n = 14; learning facilitators, n = 6; coaches, n = 10), and audiovisual material. Program documents (449 pages) were analyzed using a summative content analysis (Hsieh & Shannon, 2005) based on Blumberg's (2009) LCT framework, and the interview transcripts (521 single-spaced pages) were analyzed using thematic analysis (Braun, Clarke, & Weate, 2016). The findings are presented in three articles and an additional findings section. The first article presents a theoretical overview of the LC literature linked to current perspectives and issues in coach education, including validated framework for facilitating LC change and assessment. The second article looks at the evolution and current LC status of Canada's golf coach education program, a distinguished program within the Canadian sport system. The third article, using composite vignettes, presents the coaches' and learning facilitators' perception of their experiences participating in the LC designed program. In the additional findings, the CDAs' biographies and perceptions of their experiences participating and contributing to the design of the program are presented along with the challenges they faced. The main points from the findings in this dissertation are as follows: (a) given the strong conceptual links and evidence-based foundation, LCT offers a coherent and sensible framework to guide the study and design of coach education; (b) there were lessons to be learned when looking at the history and evolution of the coach education program; (c) the creation and implementation of LC program benefitted from leaders who understood and subscribed to a constructivist view of learning; (d) the LCT approaches were dependent on the role and effectiveness of the learning facilitators; (e) coaches' and facilitators' perceptions of LCT approaches and engagement in the program varied according to their cognitive structures, specifically their learning orientation; and (f) more broadly, the program's impact and effectiveness was influenced by the dynamic and complex interplay between the program design, delivery, and coach engagement. The findings contribute to the emerging body of literature on the use of constructivist learning principles to support coach education; they provide scholars and practitioners with a robust framework to guide the study, design, delivery, and assessment of LC coach education; and they share the exemplary efforts, experiences, and challenges of a sport federation who successfully adopted a high degree of LCT within its coach education program. Finally, based on the findings and the coach education and LC literatures, a fourth article is presented in the discussion that offers a collection of practical recommendations for CDAs to support LC coach education.

Keywords: Coach education, constructivism, facilitation, learner-centered, learning

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Chapter 1: Introduction

Introduction

The sport coach has long held a prominent role in North American societies, notably in the development of youth (Carter, 2011; Day, 2013). Given their influence on a variety of positive youth development outcomes, including physical, psychological and social development (Camiré & Kendellen, 2016; Côté & Fraser-Thomas, 2011), ensuring the appropriate development and quality control of sport coaches has received significant attention by researchers and practitioners (Mallett, Trudel, Lyle, & Rynne, 2009; Rangeon, Gilbert, & Bruner, 2012). The establishment of numerous national coaching accreditation bodies worldwide responsible for governing the education and certification of coaches is an indicator of the expansive interest in coach development (Lyle & Cushion, 2017; Trudel, Gilbert, & Werthner, 2010). Despite a well-established understanding of the complexity inherent to both learning (Jarvis, 2006; Moon, 2001) and sport coaching (Bowes & Jones, 2006; Lyle & Cushion, 2017), programs designed to educate coaches have until recently been guided by pedagogical approaches aligned with rather simplistic views of learning (Trudel & Gilbert, 2006; Paquette, Hussain, Trudel, & Camiré, 2014). Efforts to remedy the criticisms incited by scholarship that scrutinized simplistic coach education led researchers and practitioners to learning theories that embrace the complexity of learning and that centralize the learner (e.g., Nelson, Cushion, Potrac, & Groom, 2014; Werthner & Trudel, 2006). The integration and implementation of constructivist-based learner-centered (LC) approaches has become a recurring theme and undertone to the majority of innovations and recommendations presented within the literature (Paquette & Trudel, 2016). If coach education is to fully benefit from LC approaches, additional theoretical framing, empirical understanding, and evidence-based support are needed (Nelson et al., 2014; Paquette et al., 2014). Given the similarities between coaches and teachers, coaching

scholars and practitioners have often looked to educational research to guide their efforts (Armour, 2010; Nelson et al., 2014). At time when coach learning and coach education continue to lack clear conceptualization (Lyle & Cushion, 2017) and evidence-based suggestions and frameworks (Stodter & Cushion, 2016), the robust LC literature in education appears to offer intriguing opportunity and sensible recourse.

Research Purpose

The purpose of this doctoral dissertation was twofold: to explore the contribution of using the LC theory, including a well-established *learner-centered teaching* (LCT) framework, to support coach education; and to examine the LC initiatives of a coach education program. More specifically, four research questions guided this research project: (a) What changes when coach education becomes LC? (b) How does golf's CDC program align with LC approaches (c) How did the biographies of the various agents involved in the design and delivery of the program (i.e., CDAs and learning facilitators) influence their involvement and contribution to the program? (d) What are the coaches' perceptions of their experiences participating in the LC coach education program? Given the nature and scope of the research questions, a case study approach guided the research design (Merriam, 1998; Stake, 1995). As such, a review of the relevant coach education and LC literature was conducted, and multiple sources of data were gathered, including program documents, coach survey data, participant interviews and audio-visual material; data were analyzed to examine the degree of LC implementation of program, as well as the participants' experiences with the program.

Epistemology

The epistemological and ontological assumptions framing this dissertation are rooted in the *constructivist* paradigm. In line with Crotty's (1998) description of constructivism, a basic

assumption of this research is that there is no single reality or objective truth waiting to be discovered. Moreover, "there is no true or valid interpretation" of any experience (Crotty, 1998, p. 47). Constructivism emphasizes that truth and meaning are constructed through the interplay between the subject (i.e., the learner) and the object (i.e., his/her world, Crotty, 1998). The vehicle through which the interplay occurs is the individual's interpretation and meaning-making process. Constructivism takes a middle-ground approach compared to other epistemologies that insist truth is a sole function of either the subject (i.e., subjectivism) or the object (i.e., positivism, Schwandt, 2001). It is widely recognized that constructivism, as a psychological theory, is rooted in the seminal work of Piaget (1970, 1972) and Vygotsky (1962, 1978). Despite notable overlap in their work, the distinct influences of the two psychologists have led to the classification of two types of constructivism: psychological constructivism and social constructivism (Light, 2008). Influenced by Piaget, psychological constructivism places significant emphasis on the individual experience and "intrapersonal dimensions of learning and personal meaning making" (Light, 2008, p. 24). Conversely, influenced by Vygotsky, social constructivism takes a broader approach and presents learning as being socially and culturally situated. An emphasis is therefore placed on the influence of social interactions and cultural context on the learning process (Light & Wallian, 2008). Rather than viewing these two approaches as being contradictory, taking a theoretically pragmatic approach to constructivism allows for a coordination of the two perspectives to help manage and understand interconnected aspects of learning (Cobb, 1996). The theoretical frameworks guiding this dissertation are all rooted in a constructivist approach to learning that embraces the harmonization of both the individual and social aspects and influences within the learning process.

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Chapter 2: Theoretical Frameworks

Theoretical Frameworks

In social sciences, the combined use of multiple theories to guide research has been encouraged given that "one theory is [often] not sufficient; no single theory provides the conceptual tools to tell the full story researchers want to tell" (Wenger-Trayner, 2013, p. 9). As such, three frameworks are presented given their influence on the conceptualization of the research project at large, as well as the organization and interpretation of the findings and discussion. First, the initial interest and original foundation for this project, focusing on coach learning from a constructivist perspective, came from Jarvis' (2006, 2007, 2009) theory of lifelong learning. Although it does not play a central role in this dissertation, the research project would not be the same in the absence of Jarvis' influence. The second framework is Moon's (1999, 2001, 2004) generic view of learning. It was used both directly in Article 3 and Article 4 to help understand learning dispositions and orientations, and indirectly through the work of Trudel et al. (2013), which is presented throughout the entire dissertation. Combined, Jarvis and Moon's theories present the foundational understandings of learning that underpin this dissertation. Finally, LC theory and its evidence-based principles (APA, 1997), including Weimer (2002) and Blumberg's (2009) LCT framework, were the primary driving forces in this dissertation and provided the foundation for all four articles.

Jarvis' Theory of Lifelong Learning

Peter Jarvis' (2006, 2007, 2009) theory of human learning takes an existentialist approach and centers on the following definition of learning:

The combination of processes throughout a lifetime whereby the whole person – body (genetic, physical and biological) and mind (knowledge, skills attitudes, values, emotions, meaning, beliefs and senses) – experiences social situations, the content of

which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the individual person's biography resulting in a continually changing (or more experienced) person. (Jarvis, 2009, p. 25)

At the heart of Jarvis' definition is the concept of experience. According to Jarvis (2006), an episodic experience is described as the point of intersection between us and our world (i.e., lifeworld), occurring when our biographies (i.e., the sum of all our experiences, knowledge, values, attitudes, and beliefs) are unable to cope automatically with a particular situation. It is at that moment when we are unable to take our world for granted; we experience disjuncture (similar to the concept of dissonance), and we are forced to consciously experience our world (Jarvis, 2006). Thus, the opportunity to learn is presented. At that moment, we are required to make the decision whether to accept the opportunity and learn from the experience, or to reject it and remain in a state of ignorance (Jarvis, 2006). By choosing to learn from our countless episodic experiences, we are continually adding to our ever-changing biography. Jarvis (2009) highlighted, "we are constructing our own [unique] biographies whenever we learn – whilst we live our biography is an unfinished product constantly undergoing change and development" (p. 25). Consequently, Jarvis (2006) emphasized "at the heart of learning is not merely what is learned, but what the learner is becoming as a result of doing, thinking, and feeling [emphasis added]" (p. 6), and thus highlighting the lifelong process inherent with learning.

The concept of becoming is inextricably linked to the social context in which we find ourselves. Although Jarvis (2006) discussed the possibility of prenatal learning, our biographies largely originate during *primary socialization*. Through active engagement with our family and other members who are central to our life-world (e.g., doctors and neighbours), we begin to learn our culture (i.e., language, relevant knowledge, values, and beliefs). All of which helps to create

our initial subjective reality (Jarvis, 2006). Thus, an early version of our biography is formed, and we are now equipped with a lens through which to view and experience the world. As we grow and continue to learn, now from groups having their own subcultures outside of the one involved in our primary socialization, our biography continues to evolve (Jarvis, 2006). This process is referred to as *secondary socialization* (Jarvis, 2006). At this point, our biographies become better established and more stable (Jarvis, 2009). We become a unique individual within a vast, much more complex, social context.

Compared to other learning theories (e.g., behaviourism and social learning theory),

Jarvis' (2009) goes beyond a one-dimensional account of the changes that occur to us based on
our interactions with the world; it also presents a comprehensive account of how our biographies
guide our lifelong journey to becoming. According to Jarvis, our biography is responsible for
how we view the world: it dictates what we experience (i.e., episodic experiences), how we
experience it (i.e., our perception of the situation and information presented), and what, and if,
we learn from it (i.e., what we choose to attend to, Jarvis, 2009). As learners, we subjectively
discriminate amongst the plethora of information we are presented with based on the
biographical lens we see the world through (Jarvis, 2009). Moreover, when we choose to attend
to and learn from an episodic experience, our experience of that situation will not be a mirror
image, but rather a subjective perception of the external world (Jarvis, 2006). Consequently,
although there may be notable similarities, no two biographies will ever be the same, and
therefore no two learners will ever share the same experience, nor will they ever share the same
journey to becoming (Jarvis, 2007).

Moon's Generic View of Learning

Comparable to Jarvis' concept of biography, Jennifer Moon's generic view of learning (1999, 2001, 2004) discusses the learner's *cognitive structure*. Moon (2004) described the cognitive structure as a "network of concepts, emotions, knowledge, belief, etc. that guides a person's functioning at a particular time" (p. 231). In short, the cognitive structure is what is known by the learner; it is the sum of all his/her learning to date (Moon, 1999). Similar to a learner's biography, the cognitive structure is not only responsible for guiding our attention from one learning situation to another, but upon engaging in a specific learning situation it also determines what new information will be learned and the processes by which it will be learned (Moon, 2004). Moon (1999) added that the cognitive structure can also modify itself in the absence of new material. This is achieved through the reorganization of pre-existing knowledge, understanding, and feelings (Moon, 1999).

Moon's view of learning also presents the concept of *depth of learning* by comparing two approaches to learning: surface learning and deep learning. A *surface approach* to learning is typically used when we are looking to absorb (e.g., memorize) as much information as possible to cope with the demands of a particular learning assessment situation (Moon, 2004). We are not interested in understanding the underpinning principles or structure of the information, or how it can be related to our previous knowledge; we are simply concerned with knowing the information. Learners using this approach most often learn as the result of the information being *assimilated* into their cognitive structures. Alternatively, *deep learning* is characterized by a more integrated and sophisticated process, whereby additional understanding and meaning are sought following our initial engagement with the information (Moon, 1999). Although at this stage assimilation is still involved, learning results from the *accommodation* of the cognitive structure. The learning that takes place within these two approaches is distinguished for the most

part by the processes of assimilation and accommodation. Although complementary by nature, these processes represent distinct learning mechanisms in which the new information is treated differently and the learning outcomes have varied impact on the learner's cognitive structure (Moon, 1999). In short, assimilation refers to the process of new information being linked to our cognitive structure (i.e., pre-existing network). If the new information does not fit tidily into our network, it will be modified in the process (e.g., pigeon-holing and stereotyping).

Accommodation occurs when our network of concepts is challenged by new information, rousing change in our knowledge and/or beliefs (Moon, 2004). Although our cognitive structure

undergoes a change, the new material will not necessarily remain intact; it may also be forced to

modify itself to fit our new conception (Moon, 2004).

Moon (2001, p. 232) also made an important distinction between learning and teaching: These words have separate meanings. Learning refers solely to the action of a learner and concerns the processing of information both from outside the learner and a reprocessing of ideas already possessed by the learner.... Teaching and other words such as instruction indicate the action of another to make learning easier or more appropriate for the learner through guidance or through presentation of a simplified or helpfully sequenced version of the material of teaching.

As such, a final noteworthy element of her generic view of learning is the subtle, yet critical, nuance between the concepts of *material of teaching* and *material of learning*. The material of teaching is the material that is taught by the teacher irrespective of whether learning has taken place or not in the learner. Conversely, the material of learning is the material that is learnt by the learner (Moon, 2004). The distinction between these concepts emphasizes the "overt learner-centered and constructivist approach" (Moon, 2001, p. 6) of her theory and reinforces perhaps

the predominant tenet of a constructivist view of learning: teaching does not ensure learning. This notion negates the adage, "a teacher hasn't taught until a student has learned" (e.g., Nater & Gallimore, 2010; Ramsden, 2003). Accordingly, there has been a historic divide between the act and impact of teaching on student learning (McCombs & Miller, 2009; Schiro, 2013).

Learner-Centeredness

Education reform became a prominent topic for educators, researchers, and policy makers in North America following the publication of the A Nation at Risk (National Commission on Excellence in Education, 1983) report, which revealed a series of alarming trends in education, most notably the decline in student achievement and the lack of evidence-based practices guiding policies and practices (McCombs & Miller, 2009; Schiro, 2013). In response to these findings, the American Psychological Association (APA) organized a special Task Force in 1990 whose purpose was to create an integrated framework on research and theory from education and psychology (McCombs, 2003). Dr. Barbara McCombs, now a Senior Researcher at the University of Denver and prolific LC author, was appointed to lead the Task Force. According to McCombs and Miller (2009), members of the Task Force "believed that psychology, as a scientific field that has studied learning for over 100 years, had a responsibility to clearly present educators and policymakers its accumulated and research-validated knowledge base about learning and learners" (p. 28). The outcome was a document that outlined a collection of Learner-Centered Psychological *Principles* (LCPs) that apply to all learners (APA, 1993). The LCP document was originally conceived as a "living document" intended to continually evolve and be adapted based on new understandings about learners and learning (McCombs & Miller, 2009). The document was revised in 1997 (APA, 1997) to recognize the concepts of diversity and standards (Deakin Crick & McCombs, 2006), and it is now comprised of 14 principles categorized into four domains:

cognitive and metacognitive factors (i.e., intellectual capacities of learners), motivational and affective factors (i.e., influence of motivation and emotion), developmental and social factors (i.e., aspects of the learner's development and the influence of interpersonal interactions), and individual differences factors (i.e., influence of and support for individual differences). Table 1 presents the 14 LCPs (APA, 1997). Two decades have passed and the LCPs continue to stand the test of time given their robust empirical and theoretical underpinnings. The summarized research from which the LCPs were constructed can be found in the following scholarship: Alexander and Murphy (1998), Cornelius-White (2007), Kanfer and McCombs (2000), Lambert and McCombs (1998), McCombs (2000, 2001, 2004), McCombs and Miller (2007), McCombs and Whistler (1997), and Perry and Weinstein (1998).

Table 1. The Learner-Centered Psychological Principles (APA, 1997).

Cognitive and Metacognitive Factors

Principle 1: Nature of the learning process. The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience

There are different types of learning processes, for example, habit formation in motor learning; and learning that involves the generation of knowledge, or cognitive skills and learning strategies. Learning in schools emphasizes the use of intentional processes that students can use to construct meaning from information, experiences, and their own thoughts and beliefs. Successful learners are active, goal-directed, self-regulating, and assume personal responsibility for contributing to their own learning. The principles set forth in this document focus on this type of learning.

Principle 2: Goals of the learning process. The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge.

The strategic nature of learning requires students to be goal directed. To construct useful representations of knowledge and to acquire the thinking and learning strategies necessary for continued learning success across the life span, students must generate and pursue personally relevant goals. Initially, students' short-term goals and learning may be sketchy in an area, but over time their understanding can be refined by filling gaps, resolving inconsistencies, and deepening their understanding of the subject matter so that they can reach longer-term goals. Educators can assist learners in creating meaningful learning goals that are consistent with both personal and educational aspirations and interests.

Principle 3: Construction of knowledge. The successful learner can link new information with existing knowledge in meaningful ways.

Knowledge widens and deepens as students continue to build links between new information and experiences and their existing knowledge base. The nature of these links can take a variety of forms, such as adding to, modifying, or reorganizing existing knowledge or skills. How these links are made or develop may vary in different subject areas, and among students with varying talents, interests, and abilities. However, unless new knowledge becomes integrated with the learner's prior knowledge and understanding, this new knowledge remains isolated, cannot be used most effectively in new tasks, and does not transfer readily to new situations. Educators can assist learners in acquiring and integrating knowledge by a number of strategies that have been shown to be effective with learners

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of varying abilities, such as concept mapping and thematic organization or categorizing.

Principle 4: Strategic thinking. The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals.

Successful learners use strategic thinking in their approach to learning, reasoning, problem solving, and concept learning. They understand and can use a variety of strategies to help them reach learning and performance goals, and to apply their knowledge in novel situations. They also continue to expand their repertoire of strategies by reflecting on the methods they use to see which work well for them, by receiving guided instruction and feedback, and by observing or interacting with appropriate models. Learning outcomes can be enhanced if educators assist learners in developing, applying, and assessing their strategic learning skills.

Principle 5: Thinking about thinking. Higher order strategies for selecting and monitoring mental operations facilitate creative and critical thinking.

Successful learners can reflect on how they think and learn, set reasonable learning or performance goals, select potentially appropriate learning strategies or methods, and monitor their progress toward these goals. In addition, successful learners know what to do if a problem occurs or if they are not making sufficient or timely progress toward a goal. They can generate alternative methods to reach their goal (or reassess the appropriateness and utility of the goal). Instructional methods that focus on helping learners develop these higher order (metacognitive) strategies can enhance student learning and personal responsibility for learning.

Principle 6: Context of learning. Learning is influenced by environmental factors, including culture, technology, and instructional practices.

Learning does not occur in a vacuum. Teachers a major interactive role with both the learner and the learning environment. Cultural or group influences on students can impact many educationally relevant variables, such as motivation, orientation toward learning, and ways of thinking. Technologies and instructional practices must be appropriate for learners' level of prior knowledge, cognitive abilities, and their learning and thinking strategies. The classroom environment, particularly the degree to which it is nurturing or not, can also have significant impacts on student learning.

Motivational and Affective Factors

Principle 7: Motivational and emotional influences on learning. What and how much is learned is influenced by motivation. Motivation to learn, in turn, is influenced by the individual's emotional states, beliefs, interests and goals, and habits of thinking.

The rich internal world of thoughts, beliefs, goals, and expectations for success or failure can enhance or interfere the learner's quality of thinking and information processing. Students' beliefs about themselves as learners and the nature of learning have a marked influence on motivation. Motivational and emotional factors also influence both the quality of thinking and information processing as well as an individual's motivation to learn. Positive emotions, such as curiosity, generally enhance motivation and facilitate learning and performance. Mild anxiety can also enhance learning and performance by focusing the learner's attention on a particular task. However, intense negative emotions (e.g., anxiety, panic, rage, insecurity) and related thoughts (e.g., worrying about competence, ruminating about failure, fearing punishment, ridicule, or stigmatizing labels) generally detract from motivation, interfere with learning, and contribute to low performance.

Principle 8: Intrinsic motivation to learn. The learner's creativity, higher order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control.

Curiosity, flexible and insightful thinking, and creativity are major indicators of the learners' intrinsic motivation to learn, which is in large part a function of meeting basic needs to be competent and to exercise personal control. Intrinsic motivation is facilitated on tasks that learners perceive as interesting and personally relevant and meaningful, appropriate in complexity and difficulty to the learners' abilities, and on which they believe they can succeed. Intrinsic motivation is also facilitated on tasks that are comparable to real-world situations and meet needs for choice and control. Educators can encourage and support learners' natural curiosity and motivation to learn by attending to individual differences in learners' perceptions of optimal novelty and difficulty, relevance, and personal choice and control.

Principle 9: Effects of motivation on effort. Acquisition of complex knowledge and skills requires extended

learner effort and guided practice. Without learners' motivation to learn, the willingness to exert this effort is unlikely without coercion.

Effort is another major indicator of motivation to learn. The acquisition of complex knowledge and skills demands the investment of considerable learner energy and strategic effort, along with persistence over time. Educators need to be concerned with facilitating motivation by strategies that enhance learner effort and commitment to learning and to achieving high standards of comprehension and understanding. Effective strategies include purposeful learning activities, guided by practices that enhance positive emotions and intrinsic motivation to learn, and methods that increase learners' perceptions that a task is interesting and personally relevant.

Developmental and Social Factors

Principle 10: Developmental influences on learning. As individuals develop, there are different opportunities and constraints for learning. Learning is most effective when differential development within and across physical, intellectual, emotional, and social domains is taken into account.

Individuals learn best when material is appropriate to their developmental level and is presented in an enjoyable and interesting way. Because individual development varies across intellectual, social, emotional, and physical domains, achievement in different instructional domains may also vary. Overemphasis on one type of developmental readiness--such as reading readiness, for example--may preclude learners from demonstrating that they are more capable in other areas of performance. The cognitive, emotional, and social development of individual learners and how they interpret life experiences are affected by prior schooling, home, culture, and community factors. Early and continuing parental involvement in schooling and the quality of language interactions and two-way communications between adults and children can influence these developmental areas. Awareness and understanding of developmental differences among children with and without emotional, physical, or intellectual disabilities can facilitate the creation of optimal learning contexts.

Principle 11: Social influences on learning. Learning is influenced by social interactions, interpersonal relations, and communication with others.

Learning can be enhanced when the learner has an opportunity to interact and to collaborate with others on instructional tasks. Learning settings that allow for social interactions, and that respect diversity, encourage flexible thinking and social competence. In interactive and collaborative instructional contexts, individuals have an opportunity for perspective taking and reflective thinking that may lead to higher levels of cognitive, social, and moral development, as well as self-esteem. Quality personal relationships that provide stability, trust, and caring can increase learners' sense of belonging, self-respect and self-acceptance, and provide a positive climate for learning. Family influences, positive interpersonal support and instruction in self-motivation strategies can offset factors that interfere with optimal learning such as negative beliefs about competence in a particular subject, high levels of test anxiety, negative sex role expectations, and undue pressure to perform well. Positive learning climates can also help to establish the context for healthier levels of thinking, feeling, and behaving. Such contexts help learners feel safe to share ideas, actively participate in the learning process, and create a learning community.

Individual Differences Factors

Principle 12: Individual differences in learning. *Learners have different strategies, approaches, and capabilities for learning that are a function of prior experience and heredity.*

Individuals are born with and develop their own capabilities and talents. In addition, through learning and social acculturation, they have acquired their own preferences for how they like to learn and the pace at which they learn. However, these preferences are not always useful in helping learners reach their learning goals. Educators need to help students examine their learning preferences and expand or modify them, if necessary. The interaction between learner differences and curricular and environmental conditions is another key factor affecting learning outcomes. Educators need to be sensitive to individual differences, in general. They also need to attend to learner perceptions of the degree to which these differences are accepted and adapted to by varying instructional methods and materials.

Principle 13: Learning and diversity. Learning is most effective when differences in learners' linguistic, cultural, and social backgrounds are taken into account.

The same basic principles of learning, motivation, and effective instruction apply to all learners. However,

language, ethnicity, race, beliefs, and socioeconomic status all can influence learning. Careful attention to these factors in the instructional setting enhances the possibilities for designing and implementing appropriate learning environments. When learners perceive that their individual differences in abilities, backgrounds, cultures, and experiences are valued, respected, and accommodated in learning tasks and contexts, levels of motivation and achievement are enhanced.

Principle 14: Standards and assessments. Setting appropriately high and challenging standards and assessing the learner as well as learning progress – including diagnostic, process, and outcome assessment – are integral parts of the learning process.

Assessment provides important information to both the learner and teacher at all stages of the learning process. Effective learning takes place when learners feel challenged to work towards appropriately high goals; therefore, appraisal of the learner's cognitive strengths and weaknesses, as well as current knowledge and skills, is important for the selection of instructional materials of an optimal degree of difficulty. Ongoing assessment of the learner's understanding of the curricular material can provide valuable feedback to both learners and teachers about progress toward the learning goals. Standardized assessment of learner progress and outcomes assessment provides one type of information about achievement levels both within and across individuals that can inform various types of programmatic decisions. Performance assessments can provide other sources of information about the attainment of learning outcomes. Self-assessments of learning progress can also improve students' self-appraisal skills and enhance motivation and self-directed learning.

Based on an integrated understanding of the LCPs, McCombs and Whistler (1997, p. 9) provided the following definition of a learner-centered perspective:

One that couples a focus on individual learners – their heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs – with a focus on learning – the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners. This dual focus then informs and drives educational decision making.

Given the above definition, the quality of learner-centeredness can never be determined by focusing solely on teacher characteristics, instructional strategies, or courses in the absence of the learner (McCombs, 2004). At the heart of learner-centeredness are the learner's perceptions of the above elements of educational programs and the complex interaction between them (Deakin Crick & McCombs, 2006; Lambert & McCombs, 1998). The teacher must not only recognize this complex interplay, but he/she must also be aware of the influence of their own beliefs about learners, learning, and teaching if they are going to effectively use the LCPs to guide their practice

(Deakin Crick & McCombs, 2006; McCombs, 2003). Given the well-established relationship between beliefs and practices in education (Beswick, 2005; Pajares, 1992), the assessment of teacher and student beliefs and dispositions about LC practices became an avenue of much interest for McCombs and colleagues (e.g., McCombs & Lauer, 1997; McCombs & Whistler, 1997). From this body of inquiry came the development and validation of the Assessment of Learner-Centered *Practices* (ALCP). The tool was designed to help both teachers and students self-reflect and assess their learning beliefs and behaviours to enhance their acceptance and adoption of LC practices. Assessment data has been collected on more than 35,000 students and their teachers from kindergarten to graduate level studies (e.g., Deakin Crick & McCombs, 2006; McCombs, 2001; McCombs & Quiat, 2002). The following is an overview of some of the prevailing findings: high LC beliefs and reflective self-awareness in teachers related to greater usage and likelihood of using LC practices; students increased perception of LC practices related to higher academic achievement and satisfaction; positive learning and motivation outcomes are correlated with different LC practices based on level of education (i.e., grades K-3, 4-8, 9-12, and college); among LC practices, creating positive relationships promotes positive student outcomes across all levels of education; and students of all ages, including young children (i.e., grades K-3) can reliably and validly assess LC practices (McCombs, 2007; McCombs & Miller, 2009).

A separate LC interest and movement was sparked by the provocative article by Robert Barr and John Tagg, *From Teaching to Learning: A New Paradigm for Undergraduate Education* (Barr & Tagg, 1995, Cullen, Harris, & Hill, 2012; Weimer, 2002). The authors' approach differed from the APA Principles in that they sought to uncover and stimulate dialogue on the opposing epistemological beliefs about learning that were central to what they referred to as a subtle but profound "paradigm shift [that] is taking hold in American higher education" (p. 13). The shift

described by the authors, in line with the title of their article, was one that changed the focus from teaching (*instruction paradigm*) to learning (*learning paradigm*). The two paradigms were contrasted and discussed according to their mission and purposes, criteria for success, teaching and learning structures, learning theory, productivity and funding, and nature of roles (Barr & Tagg, 1995). See Article 1 for additional information on Barr and Tagg (1995). The authors concluded their article by describing the simplicity and potential impact of shifting our educational efforts to learning by using a "great ship" analogy: changing the course of a great ship is most easily accomplishment not by applying force to the bow or even to the rudder, but rather by applying a very small force to the trim-tab (i.e., a little rudder attached to the rudder). The authors indicated, "The shift to the Learning Paradigm is the trim-tab of the great ship of higher education. It is a shift that changes everything" (Barr & Tagg, 1995, p. 25). The call to action inspired educators and researchers to expand the theoretical propositions and to develop methodologies to support the practical shift to the learning paradigm (Cullen et al., 2012; Weimer, 2002).

Among those who were influenced by Barr and Tagg (1995), Dr. Maryellen Weimer, now a Professor Emerita at Penn State Berks and a highly-regarded authority in the field, published a seminal piece of literature, entitled *Learner-Centered Teaching: Five Key Changes to Practice* (Weimer, 2002). Similar to the research agenda advanced by McCombs and colleagues (e.g., Deakin Crick & McCombs, 2006; McCombs, 2001; McCombs & Quiat, 2002) that focused on the LC practices of teachers, Weimer also recognized the central role of the teacher in education, and therefore discussed the changes to teaching that occur when we focus our attention to the learner and his/her achievement of learning objectives. To guide her discussion, Weimer (2002) presented a framework of five LCT dimensions: the function of content, the role of the instructor, the responsibility for learning, the purposes and processes of assessment, and the balance of power.

Additionally, she nuanced how each dimension changes when adopting LCT compared to the traditional and dominant educational style of instructor-centered teaching (ICT). Her framework was later expanded by Dr. Phyllis Blumberg, Director of Teaching and Learning at the University of the Sciences in Philadelphia (Blumberg, 2009). By merging the APA's evidence-based principles (APA, 1997) with Weimer's work, Blumberg (2009) operationally defined each dimension and deconstructed them into a series of subcomponents with corresponding rubrics designed to facilitate both incremental change and systematic assessment of teaching, courses, and programs. In total, the framework includes 29 validated components. According to Blumberg (2009, p. 25), the rubrics were designed with three functions in mind:

First, the rubrics allow you to determine your status on the learner-centered teaching continuum. Second, they help you identify specific components you might want to change. Third, the rubrics suggest incremental changes you can make on these components to transform your teaching.

See the following sections for additional details: Article 1 presents a comprehensive review of Weimer's (2002) and Blumberg's (2009) LCT framework; Table 1 of Article 3 provides an overview comparison of ICT and LCT relative to the five dimensions; and the additional findings present Blumberg's complete set of LCT rubrics.

Doctoral Dissertation: Kyle Paquette

Chapter 3: Review of Literature

Review of Literature

Sport Coaching

The sport coach has played an influential role in society and notably the development of youth for nearly two centuries (Carter, 2011; Day, 2013). In short, sport coaches have a significant impact on a variety of athlete outcomes, including their physical, psychological and social development (Camiré & Kendellen, 2016; Côté & Fraser-Thomas, 2011), as well as the quality and success of their transition from sport (Park, Lavallee, & Tod, 2013; Wylleman, Rosier, De Brandt, & De Knop, 2017). Despite documentation of early nineteenth century British coaching practices (e.g., Sinclair, 1807; Walker, 1837), the study of sport coaches in North America, including their characteristics, roles and influence on athletes, can be traced back to the work of athletics and physical education scholars, like Guy Lowman (e.g., Lowman, 1907a, 1907b) and George Meylan (e.g., Meylan, 1905, 1909, 1913). Moreover, the American Physical Education Review, the outlet for all of the pioneering articles noted above, can be largely credited for nurturing the origins of sport coaching scholarship. Even over a century ago, researchers were looking to contribute both to the growth of this influential discipline and the support of its practitioners by way of conceptualizing the nature and process of coaching. For example, Meylan (1913) proposed the following five coaching qualifications: (a) irreproachable character, (b) leadership and enthusiasm, (c) knowledge of technique and ability to impart his knowledge to others, (d) keen powers of observation and common sense, and (e) the ability to correlate the condition of the men with the exigencies or training. All five of these 'qualifications' have received considerable attention since then (e.g., *character*, Hardman, Jones, & Jones, 2010; Horn, 2008, leadership, Riemer, 2007; Vella, Oades, & Crowe, 2010, knowledge and pedagogy, Erickson & Gilbert, 2013; Saury & Durand, 1998, observation skills, Franks &

Miller, 1991; Laird & Waters, 2008, *planning and training*, Brink, Frencken, Jordett, & Lemmink, 2014; Denison, 2010) and continue, in varying ways, to shape our understanding of the coaching process. Despite the efforts of individuals like Meylan at the beginning of the last century, and the seminal work of Coleman Griffith (e.g., Griffith, 1926) that followed, the study of sport coaching remained largely stagnant for almost 80 years. It was not until the mid-1980s that a dramatic increase of published articles on coaching science was documented (see Gilbert & Trudel, 2004). From then on, the scholarship has continued to show extensive growth (Rangeon et al., 2012).

The influx of coaching research has been attributed to the increased recognition by policy makers of coaches as 'significant others' within the sporting experience (Potrac, Denison, & Gilbert, 2013), as well as the globalization of sport (Gilbert & Rangeon, 2011; Trudel, Culver, & Richard, 2016) and the resulting efforts to professionalize the discipline (Duffy et al., 2011). Evidence of this expanded interest can be seen in the proliferation of academic programs, PhD completions, publication outlets, and conferences related to coaching (Gilbert & Rangeon, 2011; Lyle & Cushion, 2017; Trudel, Gilbert, & Werthner, 2010). The establishment of the International Council for Coaching Excellence (ICCE) and its subsequent creation of the International Sport Coaching Framework (ICCE, 2012) are also testament of the global attention that coaching is receiving. Thanks to the surge of practical and scholarly activity, coaching research is now moving closer to becoming "a mature field of study" (Lyle & Cushion, 2017, p. 3). However, there is much work to be done. Compared to Meylan's five rather simple characteristics outlined above, coaching has become notably more complex, and coaches, "far from being 'merely technicians' engaged in transfer of knowledge, are practitioners who engage in a complex socio-cultural process...[that is] multifaceted, dynamic, and messy in nature"

(Cushion et al., 2010, p. 1). Moreover, scholars continue to scrutinize the conceptual and empirical gaps, lack of consensual views and definitional clarity, and limited in-depth understandings that continue to pervade the literature (Cushion & Nelson, 2013; Lyle & Cushion, 2017). Additionally, concerns have been raised regarding the scholarship's limited practical impact in the field and potential fragmentation (Potrac et al., 2013). This is a particular threat due to the small number of research groups and individuals who have been largely responsible for driving the surge in scholarship and ensuing research agenda (Potrac et al., 2013; Rangeon et al., 2012).

Nevertheless, the depth and scope of our understanding of coaching has greatly improved in the past 30 years thanks to the contribution of these and many other coaching scholars. A scrutiny of the resulting literature reveals important trends related to the evolution of research methodologies, underlying epistemological assumptions, and research content and focus (Gilbert & Rangeon, 2011; Gilbert & Trudel, 2004; Lyle & Cushion, 2017; Rangeon et al., 2012). First, coaching research designs have experienced a significant shift from dominant quantitative methods (e.g., questionnaire/survey design and systematic observation) to increasingly diverse and creative qualitative methods (e.g., interviews and narrative approach, Gilbert & Trudel, 2004; McCullick et al., 2009; Rangeon et al., 2012). The increased use of qualitative methods is a trend that is not unique to coaching research. It has also appeared in other related fields, such as psychology (Carrera-Fernández, Guàrdia-Olmos, & Peró-Cebollero, 2014), sport management (Maitland, Hills, & Rhind, 2015), sport psychology (Culver, Gilbert, & Sparkes, 2012), and teacher education (Silverman & Manson, 2003). At the core of this trend lies the epistemic shift from a positivist perspective, borrowed from behavioural psychology, to a constructivist or naturalistic perspective, which allows researchers to better consider the contextual, situational,

and individual aspects of the topic under investigation (Cope, Partington, & Harvey, 2017; McCullick et al., 2009). The use of constructivist frameworks to conceptualize the coaching process has become a common recurrence in the literature (e.g., Light & Wallian, 2008; Trudel et al., 2013). Accordingly, coaching scholars have noted the literature's progressive convergence on constructivist approaches (Nelson et al., 2014; Paquette & Trudel, 2016).

The second major trend within coaching research is related to the evolution of its content and focus. Coach effectiveness has long been a driving force in coaching science (Côté & Gilbert, 2009; Cushion, Armour, & Jones, 2006). The bulk of early research explored the concept of coaching effectiveness, specifically with the aim of understanding what makes for an effective coach and how to increase coaches' effectiveness (e.g., Gallimore & Tharp, 2004; Smith, Smoll, & Curtis, 1979). A series of models were created both to organize findings and to theorize conceptual relationships as part of the coaching effectiveness landscape (e.g., Chelladurai, 2007; Smith & Smoll, 2007). At the core of these models was the behaviour of the coach. With dozens of instruments having been developed to measure coaching behaviours (see Cope et al., 2017 and Horn, 2008), there has been no topic that has received more attention in coaching science (Gilbert & Trudel, 2004). An important finding stemming from this body of literature is the understanding of there being no universally effective coaching behaviours (Gilbert & Rangeon, 2011; Lyle & Cushion, 2017). This has been attributed to the complexity, context-dependency, and idiosyncrasy of the coaching process (Becker, 2013; Lyle & Cushion, 2017). From there, the research agenda shifted to "a focus on moving beyond simple descriptive accounts of coaches' behaviours to in-depth case studies that explain not only the profile of coaches' behaviours, but also the 'how', 'why' and 'when' of behaviours" (Gilbert & Rangeon, 2011, p. 221). As such, greater attention was given to coaches' cognitions, including their

decision-making (e.g., Gilbert, Trudel, & Haughian, 1999; Vergeer & Lyle, 2007), efficacy beliefs (e.g., Feltz, Chase, Moritz, & Sullivan, 1999; Sullivan & Kent, 2003) and expectancies (e.g., Becker & Solomon, 2005; Solomon, 2008), and the processes by which these complex and interrelated constructs are learned (e.g., Nelson, Cushion, & Potrac, 2006; Werthner & Trudel, 2006) and developed (e.g., Erickson, Côté, & Fraser-Thomas, 2007; Trudel & Gilbert, 2006).

Coach Development

The 'main concern' for coaching researchers has shifted to coach development (Rangeon et al., 2012). Within this branch of inquiry, some scholars have devoted considerable attention to the investigation of coaches' developmental profiles and pathways (e.g., Erickson et al., 2007; Gilbert, Côté, & Mallett, 2006), whereas others have shifted their focused to the examination of the highly contested topic of learning, specifically coaches' sources of knowledge and learning (e.g., Erickson, Bruner, MacDonald, & Côté, 2008; Lemyre, Trudel, & Durand-Bush, 2007). The early findings from this body of literature shed important light on a few key themes: learning from experience (both as an athlete and coach) and social learning activities (e.g., interactions with athletes and coaches and mentoring) are preferred sources of learning for coaches (Erickson et al., 2008; Gilbert et al., 2006); compared to the previous sources of learning, coaches place significantly less value on coach education and training courses (Irwin, Hanton, & Kerwin, 2004; Schempp, Templeton, & Clark; 1998); reflective practice plays an important role in unlocking learning opportunities (Gilbert & Trudel, 2002; Nelson & Cushion, 2006); learning is idiosyncratic and largely incidental (Cushion et al., 2010; Werthner & Trudel, 2009); and the learner is ultimately responsible for his/her learning (Werthner & Trudel, 2006, 2009). Moreover, from this research came two seminal efforts to conceptually frame and advance our

understanding of the contexts and situations in which coach learning occurs (e.g., Nelson et al., 2006; Werthner & Trudel, 2006).

First, Nelson and colleagues (2006) presented Coombs and Ahmed's (1974) framework of formal, non-formal, and informal learning to attempt to resolve the "lack of definitional clarity that, on occasions, has left the field speculative and imprecise" (Nelson et al., 2006, p. 248). The authors positioned their efforts by first highlighting the importance of focusing on learning given that "learning shifts the emphasis to the person in whom change is expected to occur or has occurred" (p. 248). From there, they categorically linked the framework to the existing literature of coach learning and sources of knowledge. Unfortunately, the framework is flawed in that it infers the actual learning process for coaches varies according to the context in which the learning occurs. According to the theoretical framework of this dissertation, the process of learning does in fact change with respect to its depth (Moon, 2001); however, despite the learning environment playing an influential role in learning, the depth of learning that occurs is ultimately determined by the learner as guided by his/her cognitive structure (Moon, 2001). Despite the theoretical incongruence and confusion that has resulted from their terminology (Mallett et al., 2009), Nelson et al.'s framework remains a central part of the coach development literature and continues to influence new research (e.g., Rynne, Mallett, & Rabjohns, 2017; Sherwin, Campbell, & MacIntyre, 2017).

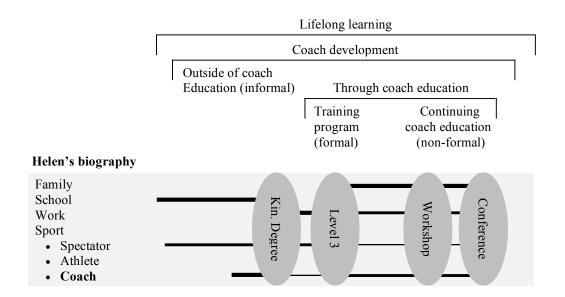
An alternative framework was introduced by Werthner and Trudel (2006). The authors presented Moon's (1994, 2004) generic view of learning as 'a new theoretical perspective' to understand coach learning from a constructivist approach. In addition to exploring two contrasting metaphors for learning (i.e., brick wall and the network of knowledge) and their vital link to the learner's cognitive structure (discussed above in the theoretical framework), a

typology of three learning situations was presented: mediated, unmediated, and internal. According to the authors, a *mediated learning situation* is characterized by a learning experience in which the content and/or delivery of the learning context are directed by another person and outside the coaches' control. Examples of mediated learning situations that contribute to coaches' learning include large-scale coach education programs, workshops, seminars, and conferences (e.g., Deek, Werthner, Paquette, & Culver, 2013; Morgan, Jones, Gilbourne, & Llewellyn, 2013a). An unmediated learning situation is self-initiated by coaches actively seeking and in control of information, often to facilitate the resolution of personal coaching issues (Gilbert & Trudel, 2006; Werthner & Trudel, 2006). Examples of unmediated learning situations in coaching include interacting with others (e.g., Lemyre et al., 2007; Wright, Culver, & Trudel, 2007), consulting resource material (e.g., Reade, Rodgers, & Hall, 2008; Wilson, Bloom, & Harvey, 2010), observing other sport participants in action (e.g., Erickson et al., 2008; Wright et al., 2007), and most forms of working with a mentor (e.g., Deek et al., 2013; Duarte & Culver, 2014). Finally, an *internal learning situation* refers to a learning experience where coaches are not presented with new information, but instead reorganize or reconsider what they already know, for example by writing in a journal or online forum, or by using a colleague as a sounding board (e.g., Stoszkowski & Collins, 2017; Taylor, Werthner, Culver, & Callary, 2015). Although these three situations are presented above as distinct concepts, the ability to clearly delineate their occurrence and influence on coaches' learning can be challenging at times (Trudel et al., 2013). For example, during a coach education workshop, coaches may learn about new information that is being delivered by the facilitator (mediated); during breaks, coaches may engage in discussions with their peers and expand their understanding of the content presented earlier (unmediated); finally, on the drive home, coaches may continue to think about the

information that was presented, and in doing so make links with previous knowledge or conceive of opportunities for new coaching practices (internal). It is important to note that regardless of the information or content available to coaches within a specific learning context, what is learned by coaches will be dependent on their cognitive structures and approaches to the learning situations (Trudel & Gilbert, 2013; Werthner & Trudel, 2006). As such, there is no learning situation or context that is inherently better than another, and therefore, "the debate about the relevancy of formal versus informal learning is, in a way, a false debate" (Werthner & Trudel, 2006, p. 209). The implications of this perspective stimulated considerable dialogue among coaching scholars, specifically related to the role of sport federations and those responsible for designing and delivering coach development opportunities and programming (Lyle, Mallett, Trudel, & Rynne, 2009; Mallett et al., 2009).

Prior to reviewing relevant coach education literature, it is important to provide some definitional clarity of the following key terms that will be presented in this section and used throughout the remainder of this dissertation: coach development, coach development administrator, coach education, and learning facilitator. First, a clear distinction between coach education and coach development was depicted by Trudel et al. (2010) within their review of coach education effectiveness (see Figure 1). Using Jarvis' (2006, 2007) theory of human learning (discussed above in the theoretical framework) to help delineate the conceptual parameters, Trudel and colleagues described how coaches' learning is lifelong; it does not begin when they become a coach, nor is it limited to the learning that occurs through coach education. Using a fictional scenario of a coach, Figure 1 (adapted from Trudel et al., 2010) illustrates an overview of Helen's biography and its influence on the learning situations that are part of her coach development pathway. From this figure, we can see that *coach development* is a broad

umbrella term that can be used to describe all formal, nonformal, informal learning contexts, and it includes all mediated, unmediated, and internal learning situations that are part of a coach's learning. Next, the terminology used within the literature to describe the individuals responsible Figure 1. Coach development within a lifelong learning perspective (adapted from Trudel et al., 2010).



for the design and creation of coach development activities and programming has varied (Cushion et al., 2010). Examples of terms used include 'coach developer' (e.g., Abraham et al., 2013; McQuade & Nash, 2015) and 'program designer or developer' (e.g., Hussain, Trudel, Patrick, & Rossi, 2012; Mallett et al., 2009). The term that will be used in this dissertation, with the exception of Article 1 given that it was published in 2016, comes from Trudel and colleagues (2013), *coach development administrator* (CDA). As noted above, within coach development lies *coach education*, defined as a "concept which regroups any planned or recognized teaching/learning activities by an institution or organization that contributes to the development of coaches; the most popular being *coach education training programs*" (Trudel et al., 2010; p. 146). Additionally, similar to CDAs, varying terms have been used to describe the individuals

who deliver coach education training programs, such as 'coach educators' (e.g., Nelson, Cushion, & Potrac, 2013; Vella, Crowe, & Oades, 2013), 'course, program or session deliverers' (e.g., Nash & Sproule, 2012; North, 2010), and 'instructor' (e.g., Callary, Culver, Werthner, & Bales, 2014; Jacobs, Knoppers, Diekstra, & Sklad, 2015). Once again, borrowing from Trudel et al.'s (2013) constructivist-informed resource, these individuals will be referred to as *learning facilitators* (or facilitator for short) in this dissertation given its constructivist, LC focus.

Coach Education

Like coaching science, the coach education scholarship has experienced a significant increase in volume (McCullick et al., 2009; Rangeon et al., 2012). It has also been influenced by the epistemic trends in research methodologies that have guided its production, influenced it findings, and shaped its research agenda (McCullick et al., 2009; Paquette et al., 2014). However, unlike sport coaching that is in the process of becoming a mature field of study, "research on coach education is in its infancy" (Piggott, 2015, p. 284). Despite our limited understanding, we are beginning to recognize the importance of integrating constructivist principles into the design of coach education (Deek et al., 2013; Paquette et al., 2014) given the mass criticisms by scholars (Morgan, Jones, Gilbourne, Llewellyn, 2013b; Nelson & Cushion, 2006) routinely referencing the limited historical impact (Trudel et al., 2010) and negligible role that coach education plays in coaches' development (e.g., Irwin et al., 2004). It must be noted that traditional coach education was typically created according to the belief that coaches' development followed a novice-expert continuum, whereby all coaches irrespective of their biographies progressed from novice to expert through the acquisition of specific coaching knowledge (Trudel & Gilbert, 2006). The role of CDAs was to package "knowledge gained from expert coaches and sport scientists...[into] a curriculum and disseminate it to coaches hoping

that they will memorize...and transfer it to their day-to-day coaching activities" (Trudel & Gilbert, 2006, p. 518). Guided by positivist assumptions about learning, the design and delivery of these programs corresponded to Moon's (1999) brick wall metaphor. The goal was to find the 'most important' bricks of knowledge required to be an effective coach and to pass them along to novice coaches so they could, little by little, build their wall of coaching knowledge (Paquette et al., 2014; Werthner & Trudel, 2006). Significant emphasis was placed on identifying the 'right bricks' and the process of their delivery (i.e., instruction); however, left out of the conversation was the coach and his/her learning (Morgan et al., 2013a; Paquette et al., 2014).

The predominant criticism aimed at these programs has been related to their low ecological validity (Cushion et al., 2006; Gilbert & Trudel, 2006) and minimal focus on the learner and learning (Cassidy, Potrac, & McKenzie, 2006; Deek et al., 2013). Explanations for their lack of impact have been broad and varied; here is a sample from the review presented in Article 1 of this dissertation (Paquette & Trudel, 2016): decontextualized learning environments (e.g., Cushion, Armour, & Jones, 2003; Jones & Turner, 2006); the use of a 'one-size-fits-all' approach (e.g., Cassidy et al., 2006; Nelson et al., 2013) or 'top-down' approach (e.g., Côté, 2006; Trudel & Gilbert, 2006) that fails to recognize coaches' biographies and coach learning; courses not being delivered as designed (e.g., Hammond & Perry, 2005; Nelson et al., 2013); the need for more credible and knowledgeable teachers (e.g., McCullick, Belcher, & Schempp 2005; Wiersma & Sherman, 2005); the lack of collaboration between course instructor and coaches (e.g., Roberts & Ryrie, 2014; Vella et al., 2013); the neglect of reflective practices and more broadly the reflective process (e.g., Knowles, Borrie, & Telfer, 2005; Nelson & Cushion, 2006); coaches resisting course content or adapting their behaviours only to ensure a positive evaluation (Chesterfield, Potrac, & Jones, 2010); and the minimal time spent by coaches per year in coach

education (Gilbert et al., 2006). Considering the marginal impact of traditional coach education, researchers and practitioners have been encouraged to consider alternative and innovative approaches for the design and delivery of programs that take into account the explanations presented above (e.g., Armour 2010; Trudel et al., 2010), as well as the fundamental critique of positivist views of learning and their adaption into education programs (Piggott, 2015).

Consequently, scholars began to shift their attention to the examination of coach education using a constructivist perspective (Nelson et al., 2014; Trudel et al., 2013).

A number of theoretically informed approaches have since been presented as possible remedies for coach education (Nelson et al., 2013), all with the aim of creating and delivering "innovative constructivist learning opportunities that enhance the nexus between theory and practice" (Morgan et al., 2013b, p. 230). A noteworthy aspect of these approaches relates to their educational origin. Given the similarities between coaches and teachers, coaching researchers and practitioners have often looked to education to guide their efforts (Armour, 2010; Jones, 2006). Examples of these approaches include competency-based programs (e.g., Banack, Bloom, & Falcao, 2012; Paquette et al., 2014), problem-based learning (e.g. Deek et al., 2013; Jones & Turner, 2006), situated learning (e.g., Cassidy & Rossi, 2006; Cushion et al., 2003), ethnodrama (e.g., Cassidy, Kidman, & Dudfield, 2015; Morgan et al., 2013a), and communities of practice (e.g., Stoszkowski & Collins 2017; Vella et al., 2013). The scholarship has provided encouraging support for the impact of these approaches on coaches' learning and coaching practices (e.g., Deek et al. 2013; Morgan et al., 2013b).

Trudel and colleagues (e.g., Paquette et al., 2014; Trudel et al., 2013; Trudel & Gilbert, 2013; Werthner, Culver, & Trudel, 2012) have provided some initial insights into the processes and challenges associated with adopting a constructivist view of learning into large-scale coach

education programs, as well as some specific recommendations to support CDAs in their efforts to develop and deliver constructivist informed programs. First, in an empirical study of the launch of part of Canada's newly developed National Coaching and Certification Program (NCCP), Werthner et al. (2012) interviewed the various agents involved with the design and delivery of the program, including the NCCP Program Director and four national Master Learning Facilitators, to better understand their biographies and perceptions of the program. Several challenges were reported, including (a) maintaining a consistent delivery of the program, (b) facilitating coaches with different biographies (i.e., motivation and readiness to learn), (c) finding effective ways to evaluate the learning facilitators, and (d) finding the appropriate quantity of learning material to optimize the potential impact of the learning context (Werthner et al., 2012). Next, Paquette et al. (2014) examined a sport federation's attempt to restructure their coach education program using constructivist principles. Building on the work of Hussain et al. (2012) who found the CDA's biography to play a significant role in adopting a constructivist design, Paquette et al. found considerable variance regarding the coaches' perceptions of the program and its perceived impact; they also noted the challenges and problems that can arise when not all individuals involved in the program subscribe to a constructivist view of learning. Finally, guided by Moon (2001), Trudel et al. (2013) presented a robust theoretical discussion on the integration of constructivist principles for CDAs. Seven considerations were presented and discussed: (a) carefully selecting the quantity of the material of teaching and the assessment format, (b) selecting the appropriate messengers, (c) providing adequate information to situate the material of teaching, (d) regrouping coaches with similar biographies, (e) offering online programs, (f) encouraging peer interaction and networking, and (g) promoting 'cognitive housekeeping'. As a collective, the body of research conducted by Trudel and colleagues

emphasizes a few critical issues regarding the design, delivery, and study of constructivist informed coach education programs. Notably, adopting a constructivist approach does not simplify coach education, rather it increases the complexity. In light of the complexities of learning and sport coaching both being widely accepted notions within their respective literatures, it only makes sense that research and design approaches, as well as recommendations for practice recognize and respect these complexities (Light, 2008; Trudel et al., 2013). Accordingly, the roles of all the various agents involved, including the CDAs, facilitators, evaluators and coaches, will invariably increase in their complexity. Considering the need for all of these individuals to fully understand and subscribe to constructivist principles for these programs to be successful, additional attention to their training, assessment, and monitoring will be required (Paquette et al., 2014; Trudel et al., 2013; Werthner, 2012).

Given the infancy of the coach education literature, there is much research needed to expand on the early insights from scholars like Trudel and colleagues. More specifically, there has been calls for research in the following areas: the examination of constructivist informed coach education programs from conceptualization through to implementation, including the consistency of their delivery by facilitators (Paquette et al., 2014; Werthner et al., 2012); the general evaluation of these programs (Cushion et al., 2010; Nelson et al., 2013); coaches' experiences in and perceptions of these programs, as well as the influence of their cognitive structures (Griffiths & Armour, 2013); how coaches' cognitive structures are accounted for in the delivery of these programs (Trudel et al., 2016); learning facilitator training, assessment and evaluation (Morgan et al., 2013b; Werthner et al., 2012); and a continued need for specific recommendations for CDAs about how to integrate constructivist approaches into practical coach education initiatives (Nelson et al., 2014; Trudel et al., 2013). Furthermore, Stodter and Cushion

(2016, p. 36) recently noted, "research in coach learning is yet to provide specific, structured, evidence based suggestions [and frameworks] that coaches can use to enhance their learning". Given the value of looking to education to support coach learning and coach education (Armour, 2010; Nelson et al., 2014), it would only seem logical to make use of the robust literature, evidence-based practices, and frameworks from education that could further support both the conceptualization of coach learning and the practical efforts of CDAs (Lyle & Cushion, 2017; Stodter & Cushion, 2016).

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Chapter 4: Research Context

Research Context

Golf Coach Education in Canada

For over 100 years, golf in Canada has been predominantly governed by two associations whose inter-working dynamics have ranged from segregation and competition to collaboration and support. Golf Canada (formerly the Royal Canadian Golf Association) was founded in 1895 at the Royal Ottawa Golf Club, and it continues to serve as the national sport federation for golf. Golf Canada is broadly responsible for developing and administering programming and servicing initiatives aimed at growing the sport, as well as conducting championships and governing the Rules of Golf, amateur status, handicapping, and course rating. The second governing association is the Professional Golfer's Association of Canada (PGA of Canada), which was founded in 1911, also at the Royal Ottawa Golf Club, during a two-day meeting of 35 Canadian *club professionals* (PGA of Canada, 2016). The PGA of Canada acts as a non-profit organization that "develops, promotes and supports professionals in the game of golf and business of golf in Canada" (PGA of Canada, 2017a).

The club professional has been a central figure of golf since the mid-19th century when people the likes of Tom Morris became a fixture of St. Andrew's the home of golf....

Roles [in golf] have changed throughout the century, but the club professional maintains their place as many players primary contact with the game. (Golf Canada, 2017)

The role of golf professionals is, in part, to introduce the game to new participants by sharing their knowledge through teaching sport-specific skills. Consequently, the delivery of sport-specific knowledge and training in golf was traditionally carried out solely by golf professionals who were commonly referred to as golf *teachers* and/or golf *instructors* (Paquette & Roy, 2011). The interest in standardizing the training and development of teaching competencies in golf

professionals surfaced in the 1980s, and throughout the next three decades a variety of PGA of Canada education initiatives were developed and administered to golf professionals, mostly in the absence of Golf Canada's direct contribution. This was an agreed upon and mutually beneficial function of their partnership that served both associations and their collective interest of increasing the capacity of competent golf teachers able to support the growth of the game.

Despite having long been part of Canadian culture, enjoyed as a pastime by an estimated six million people across the country per year (Strategic Networks Group, 2009) and having consistently surpassed hockey as the country's most popular sport since 1998 (Ifedi, 2008), it was not until 2005 that golf was recognized by Sport Canada as the country's 53rd official sport. The national recognition came with several mandates set forth by Sport Canada to Golf Canada, most notably the creation and implementation of sport-specific long-term athlete development and coach development models. It was at that time the Royal Canadian Golf Association (RCGA) was rebranded as Golf Canada, and given the PGA of Canada's investment in education programming for its members, Golf Canada leveraged their partnership with the PGA of Canada to support and expedite the delivery of the above requirements. As it related specifically to coach development programming, the PGA of Canada quickly partnered with the Coaching Association of Canada (CAC) to integrate their existing education program within the NCCP. In the years that followed, the PGA of Canada in collaboration with Golf Canada revised their coach development model and programming, shifting from a knowledge-based approach that relied on a five-level hierarchical model of coach education, to align with the NCCP's paradigm shift to competency-based, LC approaches (Paquette & Roy, 2011). For the first time in the history of golf, the concept of coaching was officially being recognized, and golf coaches were being certified by a national governing body (Golf Canada, 2012). To this day, the PGA of Canada

remains the only PGA in the world to extend its certification beyond that of instructors to include coaches, and therefore Canada is the only country in the world with certified golf coaches.

Canada's golf coach development model and certification program is comprised of three streams and a total of eight contexts (see Figure 2). The Community Sport stream is designed for "the community golf coach who is, or would like to, work with children or youth and is introducing the basic skills of golf". The stream is also designated for coaches looking to support Special Olympic athletes (PGA of Canada, 2017b). The Competition stream is designed for coaches "who usually have previous coaching experience or are former athletes in the sport, and they tend to work with athletes over the long term to improve performance, often in preparation for provincial, national, and international competitions". Finally, unlike the first two streams that target golf coaches who support athlete development, the Instruction stream focuses on golf instruction and skill development and typically involves a "short timeframe of interaction between the *instructor* and the *participant* [emphasis added]". The overarching goal of golf's NCCP is to provide "coaches with the best practical experience and in an optimal learning environment...[and to provide a] certification that recognizes that a coach's teaching technical and coaching skills all meet an internationally recognized standard for coaching practice". At the time of the study, two of the eight contexts had yet to be developed (Instructor of Advanced Golfers and Coach of High Performers), and the Coach of Developing Competitors (CDC) program (i.e., Competition-Development) was the most recent edition to the coach education offerings for golf. A detailed overview of the CDC program is presented in Article 3.

Figure 2. Golf's National Coaching Certification Program.



COACH AND INSTRUCTOR CERTIFICATION

The National Coaching Certification Program certifies coaches and instructors who have demonstrated their ability to apply critically important competencies to coaching and instructing situations relevant to the stage of athletes they coach. This means that coaches must not only know about coaching but be able to demonstrate their ability to apply this knowledge in the coaching and instructing situation.



COMMUNITY SPORT

Community Golf Coach (Community Sport – Initiation) has been designed for the community golf coach who is, or would like to, work with children or youth and is introducing the basic skills of golf. The overall goal of this workshop is to help prepare coaches to be competent in the skills required by a community coach. This 2-day workshop, which includes a half day of outdoor activities, is a great opportunity for coaches to reflect on their current undestranding of children, junior golf, and the environments children and to participate in



COMPETITION

Coach of New Competitors (Competition – Introduction) is designed for coaches working with athletes in the Introduction to Competition and Learn to Compete stages of LTPD and will focus on the differences between instructing and coaching.

Coach of Developing Competitors (Competition Development) is designed for coaches of athletes ranging from the Learn to Compete and Train to Compete stages of LTPD.

Coach of High Performers (Competition – High Performance) context is typically reserved for coaches of athletes in the Compete to Wim stage of LTPO atthough there is the possibility of some phasing in of a Train to Compete athlete into the High Performance level because of the fluidily of the stages of LTPO. Coaches in this context require specific shilling and abilities in order to meet the needs of their athletes. This context is currently under review.



INSTRUCTION

instructions in the Instructor of Beginner Golfers, Instructor of intermediate Golfers and Instructor of Advanced Golfers context tre usually working with participants who are experiencing the sport for he first time through a series of lessons. Typically there's no formalized competition at this level — it's strictly about skill development and there is is short timeframe of interaction between the instructor and the participant.

Instructors in the Instructor of Intermediate Solfers and Instructor of Advanced Solfers contexts are very specialized and are specifically there to assist golfers crossing over from competitive sport to gain enhanced skills, and in some cases, tactical development specific to their sport.

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Chapter 5: Research Approach

Research Approach

The research approach is presented in five sections. The case study approach that guided the research project is discussed in the first section. The second section provides a description of the participants and recruitment procedures. The third section outlines the data gathering activities. The fourth section presents an overview of the strategies used to analyze the data. Finally, issues of qualitative quality are addressed in section five.

Case Study Approach

The use of a case study approach has been well supported both in education (Cohen, Manion, & Morrison, 2011; Harland, 2014) and coach education research (Lyle, 2007; Nelson & Cushion, 2006), particularly when the research objectives aim to better understand the processes and dynamics of educational practices and programs (Hamilton & Corbett-Whittier, 2013; Merriam, 1998). Given the notable convergence and complementarity of their approaches (Yazan, 2015), Merriam (1998) and Stake's (1995) seminal conceptualizations of case study research provided the framework for this project's research design. Anchored in an epistemic commitment to constructivism, both approaches share related views of defining a case, designing a case study, and the processes of gathering, analyzing and validating data (Yazan, 2015). First, both methodologists define a case as an integrated and bounded system, and they emphasize it to be an object rather than a process (Merriam, 1998; Stake, 1995). As such, they both list 'programs' as prospective exemplary cases. Stake differentiates between two types of cases: intrinsic (the case itself is of primary interest) and instrumental (the case is used to gain insights into a phenomenon). Given its unique features (e.g., inauguration into coaching, available resources) and the praise and recognition it has received by many stakeholders within the Canadian sport system for its expeditious and exemplary adoption of the NCCP's competencybased, LC approaches, golf's CDC program and its launch can easily be viewed as an intrinsic case. However, it can be argued the program also fits the description of an instrumental case due to its ability to illuminate the phenomenon of LC coach education relative to its conceptualization, design and delivery, as well as coaches' perceptions of the program. Despite using different concepts as defining attributes, Merriam and Stake's methodologies converge in their characterizations of case study research being interpretive, descriptive, and comprehensive.

In line with Stake's (1995) flexible approach, the research design of this project embraced the notion of "progressive focusing", a concept originally put forth by Parlett and Hamilton (1972), coincidentally in their study of innovative education programs. The essence of progressive focusing proposes that "the course of the study cannot be charted in advance" (cited in Stake, 1995, p. 20) given that research questions and design will continue to evolve as the researcher increases his/her understanding on the issue, case, and context being studied. This project was originally designed to look at the entire Competition stream of golf's NCCP (i.e., CNC and CDC contexts), including a sample of facilitators and coaches who participated in both contexts, all of which from a broad constructivist perspective. The focus was narrowed to the CDC context and the concept of learner-centeredness following the first few interviews with the CDAs and a review of program related documents¹. The introduction of an LC focus required additional insight into the LC literature. As such, in line with Merriam's (1998) research design guidelines, a review of relevant LC literature was conducted to aid in the construction of the project's theoretical framework. A similar review of the coach education literature was conducted to gain understanding of current issues and prevailing areas of inquiry. The result of

¹

¹ Footnotes have been included throughout the remainder of this section to indicate how the changes made to the original design influenced the recruitment of participants and collection of data.

these two reviews led to the creation of Article 1. Appendix A presents an overview illustration of the case study approach and design of this research project.

Participants

Three groups of participants were purposefully sampled (Merriam, 1998) for this study due to their direct contribution to and/or involvement in the program and its launch: (a) CDAs, (b) facilitators, and (c) coaches. A total of 21^2 participants (7 CDAs, 6 facilitators, 10 coaches), having a clear understanding of the voluntary nature and expectations of their participation, agreed to participate. The seven CDAs (6 male, 1 female) all played an important role in the conceptualization, design, and coordination of the program (see Table 2). The real names of the participants are presented below and used in Article 2 with their consent. Four of the CDAs were PGA of Canada employees (one as an independent contractor); two were Golf Canada employees; and one was employed by the CAC. They ranged in age from 27 to 70 years old (M = 47.3 years), and they all possessed notable education and experience both in the area of education and coaching. It is also important to note that two of the CDAs co-acted as facilitators, and as such were also included in the facilitator sample.

Table 2. Demographics of coach development administrators.

CDA	Gender	Age	Occupation	Education	Coaching Experience
Gary	M	57	Chief Executive Officer, PGA of Canada	BA in Physical Education; Bachelor of Education; Master's in Education	13 years, golf (Provincial level and National Program); 16 years, various sports and levels (hockey, baseball, basketball, volleyball, and soccer; club and high school)
Henry	M	47	National Men's Team Coach, Golf Canada	BA in Physical Education	23 years, golf (12 years as the National Team Head Coach)
Glenn	M	45	President, PGA of Canada; Master	Diploma in Nursing; Post-Graduate	19 years, golf (New Competitor); 16 years, various

² The original sample of participants included 20 coaches (10 CNC, 10 CDC). Once the focus of the project shifted exclusively to the CDC program, the 10 CNC coaches were excluded from the project and thanked for their involvement.

			Learning Facilitator	Certificate in Business Administration	sports and levels (hockey, baseball, basketball, cross- country; school, community and Bantam AAA)
Tom	M	70	Retired Educator; Curriculum Writer, PGA of Canada	BA in Physical Education; Master's in Education	40 years, various sports and levels (basketball, volleyball, soccer, badminton and athletics; club, high school, college)
Jean	М	37	Consultant, Coaching Association of Canada	BA in Human Kinetics; Masters in Sports Management	16 years, hockey (Minor clubs, Senior AAA, U18 Canada Winter Games, NCAA D1)
Jeff	М	48	Chief Sport Development Officer, Golf Canada	BA in Physical Education	10 years, alpine (Provincial level and National Program); 8 years triathlon, National level
Morgan	F	27	Manager of Education, PGA of Canada	BA in Psychology; Post-Graduate Certificates in Adult Education, and Sport and Event Marketing	8 years, curling (Learn to Curl, beginner adults; 1 year Junior Men's Regional Level)

Notes. M = Male; F = Female

The six facilitators (5 male, 1 female) formed the entire group of CDC facilitators who each delivered a module as part of the program (see Table 3). The facilitators ranged in age from 33 to 62 years old (M = 45.2 years). Three of the facilitators were NCCP trained, while the other three were considered untrained subject matter experts. All but one of the facilitators possessed some form of coach education certification, and three of the facilitators were National Team coaches for Golf Canada. As a group, they had amassed numerous awards and accolades in the areas of coaching and teaching golf, instruction and facilitation, and professional speaking.

Table 3. Demographics of learning facilitators.

Facilitator (Module)	Gender	Age	Occupation	Coach Education	Facilitator Training
1 (Making Ethical Decisions)	M	45	President and Technical Director, PGA of Canada	IB & II (certified); CNC (trained); CDC (trained)	NCCP trained, Master Learning Facilitator and Coach Developer; 7 years
2 (Psychology of Performance)	F	62	Dean, Faculty of Kinesiology, Canadian University	None	NCCP trained, Learning Facilitator; long-time facilitator

					trainer
3 (Developing Athletic Abilities)	M	41	Assistant Professor, Canadian University; Associate Scientist, Hospital	NCCP Level 3 in swimming	Untrained, subject matter expert; NCI instructor for NCCP Level 4 & 5
4 (Analyze Technical and Tactical Performance)	M	47	National Men's Team Coach, Golf Canada	IB & II (certified); CNC (certified); CDC (trained)	Untrained, subject matter expert
5 (Performance Planning)	M	43	National Women's Team Coach, Golf Canada	IB & II (certified); CNC (certified); CDC (trained)	NCCP trained, Learning Facilitator
6 (Plan a Practice)	M	33	National Development Team Coach, Golf Canada	IB & II (certified); CNC (certified); CDC (trained)	Untrained, subject matter expert

Notes. M = Male; F = Female; IB = Instructor of Beginner Golfers; II = Instructor of Intermediate Golfers; CNC = Coach of New Competitors; CDC = Coach of Developing Competitors

Eleven coaches participated in the launch of the program. All but one elected to participate in this research project. The 10 participating coaches (9 male, 1 female) ranged in age from 28 to 57 years old (M = 42.6 years) and golf coaching experience from 5 to 25 years (M = 9.8 years), and they represented four provinces (SK, ON, QC, and NB, see Table 4). All 10 coaches had completed post-secondary education, with three coaches having obtained a college diploma, six coaches a Bachelor's degree, and one coach a Master's degree. The predominant fields of study included Kinesiology, Golf Management, and Business. Given that all the coaches had recently completed the program training requirements, they were all 'trained' in the CDC context. They had also all obtained at minimum a Level 3 certification in the former Teaching and Coaching Certification program. All the coaches reported that they started playing golf during the early stages of adolescence and had had experience playing multiple sports growing up.

Table 4. Demographics of coaches.

Coach	Gender	Age	Golf Coaching Experience (Years)	Education (Highest level)	Coach Education
1	M	34	7	Bachelor's Degree (Philosophy)	TCCP Level 4 (certified); CNC & CDC (trained)

M	28	5	Bachelor's Degree (Kinesiology)	TCCP Level 3 (certified); CNC & CDC (trained)
F	29	5	Bachelor's Degree (Physical Education)	TCCP Level 4 (certified); CNC & CDC (trained)
M	42	12	College Diploma (Golf Management)	TCCP Level 3 (certified), CNC & CDC (trained)
M	57	25	Bachelor's Degree (Kinesiology)	TCCP Level 5 (certified), CNC & CDC (trained)
M	45	13	College Diploma (Golf Management)	TCCP Level 4 (certified), CNC & CDC (trained)
M	36	7	Master's Degree (Kinesiology)	TCCP Level 4 (certified), CNC & CDC (trained)
M	38	5	Bachelor's Degree (Business)	TCCP Level 3 (certified), CNC & CDC (trained)
M	41	13	Bachelor's Degree (Kinesiology)	TCCP Level 4 (certified), CNC & CDC (trained)
M	34	6	College Diploma (Business)	TCCP Level 4 (certified), CNC & CDC (trained)
	F M M M M M M	F 29 M 42 M 57 M 45 M 36 M 38 M 41	F 29 5 M 42 12 M 57 25 M 45 13 M 36 7 M 38 5 M 41 13	F295Bachelor's Degree (Physical Education)M4212College Diploma (Golf Management)M5725Bachelor's Degree (Kinesiology)M4513College Diploma (Golf Management)M367Master's Degree (Kinesiology)M385Bachelor's Degree (Business)M4113Bachelor's Degree (Kinesiology)M346College Diploma

Notes. M = Male; F = Female; TCCP = Teaching and Coaching Certification Program; CNC = Coach of New Competitors; CDC = Coach of Developing Competitors

Data Gathering

In line with Merriam (1998) and Stake's (1995) case study methodologies, multiple sources of data were collected to capture the complexity and entirety of the case. The data sources, presented in order of the gathering procedures (see Appendix B), included document reviews, survey data, interviews, and audio-visual material. The four sources of data are presented below, followed by an overview and additional explanation of the data gathering procedure.

Document review. Data collection was initiated by collecting and reviewing a series of five³ documents and two websites both to gain perspectives on and to better understand (a) the missions, strategic visions, and objectives of Golf Canada and the PGA of Canada, (b) the athlete development and coach development models, (c) the educational framework and objectives, and (d) the content and general pedagogical approaches of the program. The documents included the

³ Five additional documents outlining the CNC program were originally collected and reviewed. These documents were discarded from the project once the focus shifted exclusively to the CDC program.

Candidate Workbook (187 pages, CAC, 2010a), Facilitator Guide (183 pages, CAC, 2010b), Evaluator's Guide (79 pages, CAC, 2010c), Evaluation Package (54 pages, CAC, 2010d), and the Reference Material (219 pages, CAC, 2010e); the websites included the Golf Canada (www.golfcanada.ca) and PGA of Canada (www.pgaofcanada.com) websites. The documents shared notable overlap in content and similarities related to formatting and general organization and content. Following the first two CDA interviews (described below), it became known that the program had originated from the influence and evolution of three prior educational initiatives: the National Teaching Manual (PGA of Canada, 1985), the Teaching Certification Program (TCP, PGA of Canada, 1995), and the Teaching and Coaching Certification Program (TCCP, Bernard, 1999). A copy of the National Teaching Manual (79 pages) and TCCP Apprentice Workbook (Levels 1-5, 201 pages) were provided by the Technical Director of the PGA of Canada. Unfortunately, no copies of the TCP could be located. Familiarization with all of the documents collected served to help shape and revise the content and structure of the interview guides for the CDAs, facilitators, and coaches. The collection and review of case documents is a cornerstone of data gathering in case study research (Merriam, 1998; Stake, 1995).

Coach survey. An online survey was created using SurveyMonkey as a starting point to examine the coaches' biographies (i.e., process of becoming a coach), coaching beliefs, and coaching practices. More specifically, the survey was comprised of six sections: (a) demographics, (b) education and certification, (c) sport participation background, (d) demographics of athletes and coaching practices, (e) sources of coaching knowledge, and (f) knowledge of the NCCP and Long-Term Player Development model (LTPD). In total, the survey contained 41 questions (see Appendix C). A link to the survey was emailed to all coaches following their agreement to participate in the study. The completion time for the survey ranged

from 16 to 31 minutes (M = 19.6 minutes). The survey was available in both official languages; however, all 10^4 coaches completed it in English given that it is their primary language. In addition to helping the coaches prepare for the interviews, the surveys also helped me to individualize the questions and areas for additional probing. Moreover, beyond informing the composite vignettes created for Article 3, the survey data was not analyzed or used as findings in the project. Although Merriam (1998) and Stake (1995) propose the exclusive use of qualitative data, the collection of survey data and more broadly the complementary use of quantitative data, both in support the qualitative inquiry and as independent data, are well established in case study research (Miles, Huberman, & Saldana, 2014; Yin, 2013).

Interviews. A total of 30^5 in-depth semi-structured interviews (Brinkmann, 2013) were conducted with the participants (CDAs, n = 14; facilitators, n = 6; coaches, n = 10). Due to the geographic dispersion of the participants, 14 interviews were conducted in-person and 16 interviews were conducted by phone. The duration of the interviews ranged from 32 to 116 minutes (M = 70.2 minutes). The CDAs were each interviewed twice⁶. The first interview (M = 70.2 minutes; R = 45-111 minutes) was guided by the constructivist-informed coach development literature (e.g., Trudel et al., 2013), and it examined their (a) biographies (i.e., age, gender, and sport participation experiences), (b) experiences and philosophies related to coaching, education, and coach education, and (c) experiences and perceptions related to the program's conceptualization and design. The second interview (M = 60 minutes; R = 32-114 minutes), taking place nearly three months later following the initial coding of the first interviews,

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⁴ The survey was originally completed by 18 coaches (8 CNC, 10 CDC). The responses from the eight CNC coaches were discarded from the project once the focus shifted exclusively to the CDC program.

⁵ Five additional interviews were originally conducted with CNC coaches. These interviews were discarded from the project once the focus shifted exclusively to the CDC program. The interviews were never transcribed or analysed.

⁶ The two CDAs who co-acted as facilitators completed three interviews: two for their role of CDA and one for their role as facilitator.

examined their perspectives of the program's (a) content, (b) delivery strategies, and (c) evaluation procedures. The second interviews were influenced by Weimer (2002) and Blumberg's (2009) LCT framework. Data collection and analysis activities for the CDAs occurred, for the most part, simultaneously. According to Flowers (2008, p. 26), "the advantages associated with the analysis of preliminary interviews structuring subsequent interviews are that it can be understood as maximizing depth and opportunity for probing". Moreover, it offered a certain degree of flexibility to adapt the research design according to the emerging findings (Stake, 1995). The facilitators were each interviewed once (M = 67.4 minutes; R = 48-103minutes) to examine their (a) biographies (i.e., age, gender, and sport participation experiences), (b) experiences and philosophies related to coaching, education, and coach education, (c) perceptions of facilitator training, and (d) perceptions of the program (i.e., design, content delivery, and assessment/evaluation). Finally, the coaches were also interviewed once (M = 76.7minutes; R = 51-116 minutes). In addition to providing a more in-depth investigation of the themes targeted in the online survey, the interviews examined their (a) perceptions of the program (i.e., design, content, delivery, assessment/evaluation), (b) perceptions of the impact the program had on their development, and (c) recommendations for CDAs to help improve the impact and effectiveness of the program. Both the facilitator and coach interview guides were influenced by the initial analysis and emergent findings from the CDA interviews. A copy of all interview guides can be found in Appendices D, E, F, and G.

Audio-visual material. A collection of 86 photos and 78 video clips (total duration of 20.1 minutes) of the participants at the launch of the program were taken and given to me by one of the CDA participants. The photos and videos were used to help gain additional context and insight into the program and participants' experiences. The importance and value of capturing

the physical space and learning environment as part of LC assessment has been recognized (Blumberg, 2009; Harris & Cullen 2010). Moreover, audio-visual materials have a long history in qualitative research (Pink, 2013) and have been advocated for as a complementary source of data in case study research (Cohen et al., 2011; Yin, 2013). In fact, Merriam and Tisdell (2016) categorized video and photography as visual documents that can provide a means of capturing details of a case that may have otherwise been overlooked. Although the audio-visual material was not considered or used as a primary source of data, they were systematically reviewed and processed according to Phoenix and Rich's (2016) considerations for using 'found' visual data.

Procedure. Approval to conduct the study was granted by the Health Sciences and Science Research Ethics Board at the University of Ottawa in November 2011 (see Appendix H). Given the shared interests of the PGA of Canada related to providing world-class coach development opportunities and programming for its members and that of the proposed research project, approval was also provided by the PGA of Canada's President and Chief Executive Officer. Electronic copies of the five CDC documents (CAC, 2010a, 2010b, 2010c, 2010d, and 2010e) were sent to me by the Technical Director of the PGA of Canada in December 2011. Three pilot interviews were conducted in January 2012 with a CDA, facilitator, and coach from another sport to help refine the interview guides. At the same time, the online survey was also piloted with three coaches from another sport to ensure its proper functioning and to seek feedback on its content and length. Invitation emails were sent in January (CDAs) and February (facilitators and coaches) 2012 (see Appendices I, J, and K). A link to the coach survey was included in the coach invitation email, and contained within the survey was an electronic consent form (see Appendix L). For the CDAs and facilitators, a copy of the consent form was either emailed or provided in person and signed depending on how their interview took place (i.e., in

person or by phone, see Appendices M and N). The launch of the program took place in late January 2012. The first interviews with the CDAs were conducted in February 2012, and the follow-up interviews took place between June and July 2012. The facilitators and coaches were interviewed between April and May 2012. An overview of the timeline for data collection can found in Appendix B. Throughout the data collection and analysis process, I was in regular contact with the Technical Director of the PGA of Canada to acquire ongoing additional insights and perspectives on the program and the emergent findings.

Data Analysis

Two data analysis strategies were used to analyze the different sources of data gathered: summative content analysis (Hsieh & Shannon, 2005) for the documents and thematic analysis (Braun & Clarke, 2006; Braun, Clarke, & Weate, & 2016) for the interview transcripts. As proposed by Merriam and Tisdell (2016), a computer assisted qualitative data analysis software (i.e., Nvivo versions 10 and 11) was employed to create two databases to support data management and coding. The first database managed the three CDC documents: Candidate Workbook (CAC, 2010a), Facilitator Guide (CAC, 2010b), and Evaluator's Guide (CAC, 2010c). Although five CDC documents were collected and reviewed, due to significant overlap and repetition between the Evaluator's Guide and Evaluation Package (CAC, 2010d), the smaller and less descriptive of the two documents was discarded from the analysis. A decision was also made to exclude the Reference Material (CAC, 2010e) from the analysis considering it being a compilation of additional resource material and templates with no pedagogical structure or learning activities. Moreover, the two documents outlining the prior iterations of the PGA of Canada's education programs (i.e., Bernard, 1999 and PGA of Canada, 1985) were reviewed in accordance with a case study approach (Merriam, 1998; Stake, 1995), but not formally analyzed.

Blumberg's (2009) LCT framework guided the analysis of the three CDC documents. A copy of Blumberg's five rubrics can be found in the additional findings section of this dissertation. The first step of analysis involved developing a comprehensive understanding of Blumberg's rubrics and recommendations to formally assess an educational course or program. The rubrics make use of three types of gradation to assist in the assessment of program documents and to differentiate level of LC rating: quantitative gradations, qualitative gradations, and gradations involving subcriteria. In line with Blumberg's rubrics and gradations, Hsieh and Shannon's (2005) summative content analysis provided additional procedural guidelines to support the analysis of the documents. According to Hsieh and Shannon (2005, p. 1283), a summative approach to content analysis involves "identifying and quantifying certain words or content in text with the purpose of understanding the contextual use of the words or content". Using this protocol, all document content relating to Blumberg's 29 components was coded. The coding within each component was then reviewed according to the corresponding gradation used to differentiate its rating within the rubrics. See Article 2 for additional information on the data analysis procedures and gradations used by Blumberg. A complete analysis of the documents was completed in Spring 2013. Following a 1-year leave of absence, a complete secondary analysis using the same procedures outlined above was conducted to help with re-familiarization of the data, as well as to test intra-rater reliability of using Blumberg's framework. The secondary analysis yielded a 82.7% intra-rating reliability with 24 of 29 components rated the same in both analyses; the ratings of four components improved one level (components 1.3, 3.4, 3.5, 4.4), and the rating of one component went down one level (component 2.5; see Article 2).

The second database was used to manage and help analyze the interview data. All 30 audio-recorded interviews were transcribed verbatim, resulting in 521 single-spaced pages of

transcripts. All interview transcripts were uploaded into the database. Braun and colleagues' (2016) six phase thematic analysis protocol was used to analyze all interview data due to its epistemic flexibility, congruence with case study data analysis recommendations (Merriam & Tisdell, 2016), as well as its ability to illuminate people's experiences, views and perspectives on issues in sport and exercise (Braun et al., 2016). In phase one, familiarization with the content was achieved through deep immersion and critical engagement with the data (Braun et al., 2016). All interview transcripts were read two or three times prior to coding, and notes were taken to keep track of interesting data and links to the research questions. In phase two, both inductive and deductive coding was guided by the initial familiarization and notes. Given the flexible and organic nature of coding (Braun et al., 2016), the coding process evolved; some codes were edited, whiles others were merged together or split into separate codes. The third phase involved the development of *candidate themes* by "clustering codes to identify 'higher-level' patterns" in the data (Braun et al., 2016, p. 198). In phase four, the candidate themes were then carefully and systematically reviewed and refined to ensure they appropriately represented the data gathered and addressed the research questions. This process resulted in *finalized themes* that were organized into the outlines for two of the three articles presented in the findings section, as well as the additional findings (phase 5). In the sixth and final phase of analysis, the articles and additional findings were written with careful considerations both to selecting quality data extracts and extending beyond the presentation of basic descriptive analyses (Braun et al., 2016).

Qualitative Quality

Validity and reliability are concepts that originated from the natural sciences and made their way into quantitative social science research (Merriam & Tisdell, 2016; Yazan, 2015). As qualitative research became more common, considerable attention was devoted to issues and

strategies related qualitative validity and reliability (e.g., Lincoln & Guba, 1985). The epistemic contradiction in this position has been extensively discussed by qualitative methodologists (e.g., Burke, 2016; Sparkes & Smith, 2014). The concepts of validity and reliability are rooted in a positivist epistemology governed by assumptions about knowledge and reality that fundamentally differ from those that underpin qualitative research guided by a constructivist perspective (Merriam & Tisdell, 2016; Sparkes & Smith, 2014). As such, attempting to apply these concepts and strategies in rigid ways to constructivist research is akin to "trying to fit a square peg into a round hole" (Burke, 2016, p. 332). This has resulted in the conceptualization of criteria and strategies to support qualitative quality that are congruent with the ontological position of qualitative research (e.g., Patton, 2015; Tracy, 2013). The advancement in the 'criteriological approach', coined by Sparkes and Smith (2009), has helped to advance our ability to discern quality research; however, researchers have warned that we be cautious not to fall into the positivist trap of applying universal criteria to judge the quality of all qualitative research (Burke, 2016; Sparkes & Smith, 2009). Alternatively, the 'relativist approach', aligned with constructivist principles, promotes the application of criteria that are both contextually relevant and situated within the study (Burke, 2016). Based on a relativist approach, the following section outlines four criteria applied to this project to strengthen its quality and rigour: credibility through triangulation and member checking, and transparency through a bracketing interview and peer debriefing (Burke, 2016). All criteria are supported within the case study approach that guided the research design (i.e., Merriam, 1998; Stake, 1995).

First, there is a consensus among case study methodologists on the importance of using triangulation and member checking to enhance the credibility of the research (e.g., Merriam, 1998; Stake, 1995; Yin, 2013). Two types of triangulation were applied in this project: multiple

methods of data collection (i.e., documents, interviews, audio visual material) and multiple sources of data (i.e., interviews from CDAs, facilitators, and coaches, Merriam & Tisdell, 2016). Member checking was also applied in a couple different ways throughout the data analysis process. Following the verbatim transcription of their audio-recorded interviews, all participants were forwarded a copy of their transcripts by email. They were asked to carefully review the document and to make any changes they like. Several participants took this opportunity to add detail to their original transcripts. Furthermore, the participants whose quotes were used in Article 2 were sent the quotes and had the opportunity to edit them. One minor edit was made to a quote from one of the CDAs to create a gender-neutral statement (i.e., "he" was changed to "they"). The composite vignettes were also sent to a CDA and facilitator to stimulate dialogue and reflection about the "fairness, appropriateness, and believability of interpretations offered" (Burke, 2016, p. 336). Finally, as mentioned above, regular contact between myself and the Technical Director of the PGA of Canada took place to discuss the project and to elicit feedback and perspective on analysis and emergent findings.

Efforts to increase the transparency of the project involved engaging in a bracketing interview and the regular use of peer debriefing. Bracketing interviews are typically used to help the researcher suspend assumptions or prejudices with the ultimate objective to avoid contaminating their interpretive engagement in gathering and analyzing the data (Fischer, 2009; Tufford & Newman, 2012). However, the degree to which bracketing interviews achieve what they intend to has been debated (Merriam & Tisdell, 2016). In this project, a bracketing interview conducted by my supervisor, Dr. Pierre Trudel, was used predominantly as a self-awareness activity to help me better understand my cognitive structure relative to the topics and procedures contained within the research project. An expanded commentary on this issue is

presented in the discussion of this dissertation. A second strategy used was peer debriefing. In addition to ongoing meetings and critical discussions with my supervisor, a fellow doctoral student was recruited as a 'critical friend' and used for peer support and routine peer debriefing (Tracy, 2013). More specifically, the critical friend was used extensively throughout data analysis both to scrutinize and to provide a "sounding board to encourage reflection upon, and exploration of, alternative explanations and interpretations as they emerge in relation to the data" (Burke, 2016, p. 336).

Finally, a key determinant of quality case study research pertains to the researcher's skills (Merriam, 1998; Stake, 1995). Analytical sensitivity and scepticism, as well as effective interpersonal and interviewing skills are highlighted for their importance in gathering and analyzing data (Merriam, 1998; Stake, 1995). I believe my experience working as a mental performance consultant (MPC) for more than a decade has significantly contributed to the development and refinement of these two broad skill sets. Central to my role as a MPC is developing strong interpersonal relationships (positive interactions and trust, e.g., Arnold & Sarkar, 2015; Sharp, Hodge, & Danish, 2014) with clients and conducting effective interviews (asking good questions, making use of probes, e.g., Andersen, 2000; Aoyagi, Poczwardowski, Statler, Shaprio, & Cohen, 2017) aimed at gathering meaningful data related to their experiences in and outside of sport (Andersen, Miles, Robinson, & Mahoney, 2004; Tod, Andersen, & Marchant, 2009). Moreover, my abilities to carefully observe, analyze, interpret and act on the data I gather during these interviews are continually being tested and refined.

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Chapter 6: Findings

Findings

The findings are presented in two sections: three research articles and additional findings. In Article 1, a synthesis of the LCT and coach education literature reviews conducted as part of Merriam's (1998) case study recommendations is presented (published in *The Psychology of Effective Coaching and Management*). Article 2 (under review in the *International Sport Coaching Journal*) examines the evolution and current LC status of the CDC program and includes data from all seven CDAs and the review and analysis of program documents. Article 3 (to be submitted to *Qualitative Research in Sport, Exercise and Health*) explores the coaches' and facilitators' perceptions of their experiences participating in the program and includes data from the six facilitators and 10 coaches. Finally, the additional findings section presents the complete LC assessment of the program using Blumberg's (2009) framework, as well as the CDAs' perspectives of their experiences participating and contributing to the conceptualization and design of the program.

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Article 1

Learner-centered teaching: A consideration for revitalizing coach education

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Abstract

Sport coaching researchers are urging their peers to look at coach development using perspectives and methodologies that recognize and embrace the role of the coach as a learner. Although the study of traditional coach education programs has yielded discouraging findings, coach education can be significant in its contribution to coach development when it centralizes the learner and caters to his/her individual needs. As such, the conversation has shifted to the integration and implementation of learner-centered (LC) approaches. The purpose of this article is to support the practical efforts of coach educators looking to transition to LC approaches and to stimulate dialogue among researchers and practitioners that explores the breadth of possibilities and benefits of adopting these approaches to help revitalize coach education. To this end, a theoretical overview of the LC literature is presented, along with a popular framework and practical tool for facilitating change and assessment of LC programs. Finally, the relationship between the LC framework and the current landscape of coach education literature is explored and critical considerations for leading LC coach education are discussed.

Keywords: Coach development, coach educators, constructivism, learning, paradigms

Introduction

Learning is said to be central to quality coaching and coach development (Armour, 2010; Nelson, Cushion, Potrac, & Groom, 2014). Sport coaching researchers are urging their peers to look at coach development using perspectives and/or methodologies that recognize and embrace the role of the coach as a *learner* (e.g., Armour, 2010; Cassidy, Jones, & Potrac, 2009; Trudel, Culver, & Werthner, 2013). Due to the methodological challenges of meeting the individual needs of coach learners, the ability of existing coach education to positively impact coaches' learning and long-term development has been questioned (e.g., Mallett, Trudel, Lyle, & Rynne, 2009; Trudel, Gilbert, & Werthner, 2010). Up until the last few years, the literature has painted a dismal picture of coach education, maintaining that it plays a minimal role in coaches' development, resulting in it being "widely criticized by scholars and coaches alike" (Nelson & Cushion, 2006, p. 175). However, Piggott (2015) has argued that "researchers have perhaps been hasty in drawing simple conclusions" (p. 3). When examining the literature in question more carefully, the vast majority of research criticizing coach education stems from the study of programs informed or underpinned by 'behaviourist' (Piggott, 2015) and more broadly 'positivist' assumptions (Paquette, Hussain, Trudel, & Camiré, 2014) – programs that do little in the way of centralizing the learner. Instead of a scrutiny of coach education in general, the findings from this body of research may perhaps be more accurately summarized as having revealed a significant limitation to programs designed and delivered according to traditional, positivist views of learning. The fact is, coach education can be significant in its contribution to coach development (e.g., Collins, Abraham, & Collins, 2012; Griffiths & Armour, 2013; Trudel et al., 2013). There is a flourishing body of research that is yielding encouraging findings for programs that use novel educational approaches that are aligned with constructivist learning

principles (e.g., Leduc, Culver & Werthner, 2012; Morgan, Jones, Gilbourne, & Llewellyn, 2013; Paquette et al., 2014) – programs that are designed to put a greater emphasis on the learner and to better cater to his/her key individual differences.

The conversation has indeed shifted to the integration and implementation of learnercentered (LC) approaches and materials to support the renewal of coach education (Lyle, Jolly, & North, 2010; Nelson et al., 2014; Paquette et al., 2014). While coach education programs around the world are increasingly making their claims to employ LC approaches (e.g., Canada's National Coaching Certification Program, Coaching Association of Canada, 2013; United Kingdom Coaching Certificate, Lyle, 2007), our understanding of what it means to be LC remains limited. As it stands, with the exception of Nelson and colleagues' (2014) notable effort to explore the foundations of Carl Rogers' theorizing about person-centered learning, a lack of scholarship addressing the LC paradigm and its implications for coach education has seemingly created a "loose-patchwork of assumed related notions... [and has done] little to deepen its conceptual underpinnings or support recommendations for practice" (Nelson et al., 2014, p. 3). Given that the complexity of educating coaches is magnified when focusing on the learner and his/her needs (Collins et al., 2012; Nelson et al., 2014; Trudel et al., 2010), more than ever there is a need for theoretically informed resources to support the practical efforts of coach educators looking to transition to LC approaches. As such, the purposes of this chapter are: (a) to provide a theoretical overview of the LC literature; (b) to present a practical framework for facilitating LC change and assessment; and (c) to discuss critical considerations for leading LC coach education.

Part 1: A Look at the LC Literature

Barr and Tagg: From Teaching to Learning

There is a consensus in the education literature that the mass interest in learner-centeredness was sparked by Robert Barr and John Tagg's (1995) ground-breaking article in *Change, From Teaching to Learning: A New Paradigm for Undergraduate Education* (Cullen, Harris, & Hill, 2012; Fear et al., 2003; Weimer, 2002). The authors presented evidence of a fundamentally flawed higher education system in which learning was being overshadowed by the activity of teaching (p. 13):

We are beginning to recognize that our dominant paradigm mistakes a means for an end. It takes the means or method – called 'instruction' or 'teaching' – and makes it the college's end or purpose. To say that the purpose of colleges is to provide instruction is like saying General Motors' business is to operate assembly lines or that the purpose of medical care is to fill hospital beds. We now see that our mission is not instruction but rather that of producing *learning* with every student by *whatever* means works best.

Barr and Tagg highlighted a need for higher education to shift its focus and systematic efforts from teaching to the process of student learning. As such, central to their article, the authors compared and contrasted two opposing educational paradigms: the *instruction paradigm* and the *learning paradigm*. A detailed description of the two paradigms was outlined in terms of their mission and purposes, criteria for success, teaching/learning structures, underpinning learning theory, and nature of faculty roles. In short, they described the instruction paradigm, often referred to as the traditional or dominant paradigm in education, as one of competition, control, and isolation. Based on learning theory that subscribes to a belief in objective truth and the ownership of knowledge, commonly associated with positivism (Denzin & Lincoln, 2011), the primary objectives of the instruction paradigm are the provision of instruction and the transfer of knowledge from faculty to student. Within this paradigm, efforts from national commissions and

task forces to enhance the quality of education are often motivated by the goal of improving the quality of instruction. Conversely, the learning paradigm is one of cooperation, collaboration, support, and knowledge creation. Based on learning theory aligned with constructivism (Denzin & Lincoln, 2011), the learning paradigm aims to produce learning, create meaningful learning environments, and elicit student discovery and joint construction of knowledge in order to achieve specified learning outcomes.

Barr and Tagg (1995) admitted that the two opposing paradigms are in practice never as "neatly parallel" as they are presented in summary charts designed according to a visibly distinct and well-established set of parameters. Furthermore, the authors noted that "not all elements of the new paradigm are contrary to corresponding elements of the old; the new includes many elements of the old within its larger domain of possibilities" (p. 15). For example, they pointed to the act of lecturing, and suggested that although it is a teaching activity that has been largely entrenched in the instruction paradigm, it is not prohibited in the learning paradigm. Instead, it becomes one of many options for teachers based on its appropriateness to promote learning. As a result, the authors recognized that the transition from one paradigm to another would be a challenging and timely process requiring a systematic and concerted effort on behalf of educators and institutions. In the years that followed the publication of Barr and Tagg's article, the study of the learning paradigm was launched (e.g., Cambridge, 1996; Fear et al., 2003; Tagg, 2003). Due to the central role of teaching in education, significant efforts were made by researchers and practitioners to better understand what teachers should do in order to maximize learning in their students, and with that, the term *learner-centered teaching* (LCT) was coined (Weimer, 2002).

Weimer and Blumberg: Learner-Centered Teaching

Among the LC enthusiasts leading the charge, Maryellen Weimer, now a highly regarded authority on LCT (Blumberg, 2009; Doyle, 2011; Harris & Cullen, 2010), published a seminal book that explored the changes to teaching practices required by educators in order to transition to LCT. Weimer (2002) set out by first making an explicit and significant distinction between what it means to take a *learner-centered* approach compared to a *student-centered* approach, a term more common to education-based discussions at the time:

Being *student-centered* implies a focus on student needs. It is an orientation that gives rise to the idea of education as a product, with the student as the customer and the role of the faculty as one of serving and satisfying the customer....Being *learner-centered* focuses attention squarely on learning: what the student is learning, whether the student is retaining and applying the learning, and how current learning positions the student for future learning. (p. xvi)

In line with Barr and Tagg's (1995) dichotomy of educational paradigms, Weimer contrasted the act of being LC (aligned with the learning paradigm) to that of being teacher/instructor-centered (aligned with the instruction paradigm), and did so by defining and exploring five dimensions that need to change or be implemented to achieve LCT: (a) the function of content, (b) the role of the instructor, (c) the responsibility for learning, (d) the purposes and processes of evaluation, and (e) the balance of power. The benefits of adopting the five dimensions of Weimer's conceptual framework are plentiful (e.g., foster self-regulated learning skills, creativity, critical thinking, and deep learning) and well-supported within the education and psychology literatures (e.g., Cornelius-White, 2007; Tagg, 2003). As such, LCT has become a 'buzz word' in education (Hirsch, 2010; Svinicki & McKeachie, 2011), and its influence can be observed by the recent outpouring of academic publications devoted to the study and application of LCT (Cullen et al.,

2013; Doyle, 2011). Upon examination of this body of work, the widespread impact of Weimer's framework becomes apparent. A quick online search revealed that Weimer's work has been cited in over 1,000 publications exploring LCT practices and implications for educators in various disciplines, including business (e.g., Lending & May, 2013; Smart, Witt, & Scott, 2012), education (e.g., Brackenbury, 2012; Yilmaz, 2008), health studies (e.g., Cheang, 2009; Harpe & Phipps, 2008), mathematics (e.g., Alsardary & Blumberg, 2009; Ortiz-Robinson & Ellington, 2009), and nursing (e.g., Candela, Dalley, & Benzel-Lindley, 2006; Greer et al., 2010).

In an effort to expand the ground-breaking work of Weimer (2002) and to increase the applicability of her LCT framework, Blumberg (2009) operationally defined what constitutes each of Weimer's five dimensions, and by doing so, further categorized each of them into four to seven components based on the LC literature (e.g., Alexander & Murphy, 1998; APA, 1997). In total, Blumberg's comprehensive framework presents 29 components that define LCT (see Table 1). Rubrics were also created for each dimension to describe different instructor behaviours for the respective components according to four levels: (a) employs instructor-centered approaches, (b) lower-level of transitioning, (c) higher-level of transitioning, and (d) employs LC approaches (see Blumberg, 2009). The rubrics and components have since received empirical and expert validation regarding their content and construct (Blumberg & Pontiggia, 2011). While the rubrics provide a tool for assessment that can show a 'snapshot' of a program's LC implementation at any given moment, they also offer a systematic approach for educators to facilitate change towards developing LC programs.

Within the context of coach education, at first glance, Weimer's (2002) framework presents notable similarities and links between the recent theoretical and practical efforts of coach education researchers and practitioners. As such, with the aim of exploring the relationship

Table 1. The components of learner-centered teaching (Blumberg, 2009).

Dimensions of LCT	Components			
The Function of	a) Varied uses of content			
Content	b) Level to which students engage in content			
	c) Use of organizing schemes			
	d) Use of content to facilitate future learning			
The Role of the	a) Creation of an environment for learning through organization and use of material			
Facilitator	that accommodates different learning styles			
	b) Alignment of the course components for consistency			
	c) Teaching or learning methods appropriate for student learning goals			
	d) Activities involving student, instructor, content interactions			
	e) Articulation of SMART objectives			
	f) Motivation of students to learn			
The Responsibility	a) Responsibility for learning			
for Learning	b) Learning-to-learn skills or skills for future learning			
_	c) Self-directed, lifelong learning skills			
	d) Students' self-assessment of their learning			
	e) Students' self-assessment of their strengths and weaknesses			
	f) Information literacy skills			
The Purposes and	a) Assessment within the learning process			
Processes of	b) Formative assessment			
Assessment	c) Peer and self-assessment			
	d) Demonstration of mastery and ability to learn from mistakes			
	e) Justification of the accuracy of answers			
	f) Timeframe for feedback			
	g) Authentic assessment			
The Balance of	a) Determination of course content			
Power	b) Expression of alternative perspectives			
	c) Determination of how students earn grades			
	d) Use of open-ended assignments			
	e) Flexibility of course policies, assessment methods, learning methods, and deadline	es		
	f) Opportunities to learn			

between the LCT framework and the current landscape of the coach education literature in more depth, a comprehensive search was conducted for any articles published in English language journals since 2000 in which thoughts on how to improve the quality and/or enhance the impact of coach education were provided. Looking at this body of work through the lens of the LCT framework, it became apparent that the majority of critiques and recommendations targeting coach education are not only closely aligned with the LCT framework, but in many cases be satisfied with the adoption of one or more recommendations made by Blumberg (2009) and

Weimer to support LCT. To help illustrate these links, Table 2 presents a comprehensive list of coach education critiques and recommendations categorized according to the five dimensions of the LCT framework. Each dimension is presented and discussed below according to the contrasting roles they play in instructor-centered (IC) and LC programs.

Part 2: Five Dimensions of LCT Framework

The Function of Content

Discussions regarding educational content have long been influenced by the belief that "more is better" (Weimer, 2002, p. 46). Instructors often race to cover as much content as possible given their time constraints in an effort to not only help students acquire the maximum amount of content knowledge, but also to meet curriculum requirements (Cullen et al., 2012). The effectiveness of this approach has been brought into question (Weimer, 2002), and it has been suggested to lead to an "illusion of comprehension" (Svinicki, 2004, p. 117). Instructors are encouraged to think more holistically about content and how it can be used in conjunction with students' prior learning to support their achievement of designated outcomes (i.e., skills and abilities) and continued learning following their participation in an educational program (Harris & Cullen, 2010). This dimension is categorized into four components (see Table 1). In IC programs, content is *covered* by instructors in the absence of a defined organizing scheme to help students build their respective knowledge bases, and students are allowed and possibly encouraged to memorize content and to learn it in isolation of previous knowledge and with no regard for future learning. In contrast, students in LC programs are encouraged by instructors to engage in the content at a personally meaningful level through critical reflection. Moreover, content is viewed as "both an end in itself and a means to other ends" (Blumberg, 2009, p. 83); it is also framed and organized by instructors not only to help students build a knowledge base, but

Table 2. Five dimensions of LCT linked to coach education critiques and recommendations.

Dimensions of LCT	Coach Education Critiques (C) and Recommendations (R)	Example References
The Function of Content	C – Decontextualized learning/environments R – Active learning opportunities R – Recognition of coaches' biographies R – Working with meaning/transform content R – Situate learning R – Relevant, usable, and interactive content R – Well organized/formatted learning material	Cushion et al. (2003); Jones & Turner (2006); Nelson et al. (2006) Morgan et al. (2012); Nelson et al. (2013); Wiersma & Sherman (2005) Christensen (2014); Leduc et al. (2012); Werthner & Trudel (2009) Douglas & Carless (2008); Griffiths & Armour (2013); Morgan et al. (2012) Jones et al. (2012); Trudel et al. (2013); Vella et al. (2013) Cushion et al. (2003); Lyle et al. (2010); Nelson et al. (2013) Hammond & Perry (2005); Lyle et al. (2010)
The Role of the Instructor	C – One-size-fits-all approach C – Courses not being delivered as designed R – More credible/knowledgeable teachers R – Collaboration between coach and facilitator R – Embracing the role of facilitation R – Increase coaches' social interactions	Cassidy et al. (2006); Cushion et al. (2003), Nelson et al. (2102) Hammond & Perry (2005); Nelson et al. (2013); Werthner et al. (2012) McCullick et al. (2005); Wiersma & Sherman (2005) Chesterfield et al. (2010); Roberts & Ryrie (2014); Vella et al. (2013) Nelson et al. (2013, 2014); Paquette et al. (2014); Werthner et al. (2012) Cassidy et al. (2006); Jones et al. (2012); Wiersma & Sherman (2005)
The Responsibility for Learning	C – Minimal focus on the learner and learning R – Use of reflective activities R – Recognizing the lifelong nature of learning R – Developing learning skills a) Reflective skills b) Creating networks c) Decision-making skills d) Learning to plan e) Self-regulating	Cassidy et al. (2006); Hussain et al. (2012); Jones (2006) Knowles et al. (2001, 2005); Nelson et al. (2006); Trudel et al. (2013) Deek et al. (2012); Leduc et al. (2012); Trudel et al. (2010) Cushion et al. (2010); Hussain et al. (2012); Lyle et al. (2009) Cassidy et al. (2006); Knowles et al. (2001); Leduc et al. (2012) Leduc et al. (2012); Nash & Sproule (2009); Trudel et al. (2013) Abraham et al. (2010); Nash & Sproule (2012) Abraham et al. (2010); Nash & Sproule (2009) Cushion et al. (2010); Demers et al. (2006); Jones et al. (2012)
The Purpose and Process of Assessment	C – Adapting behaviours to pass test R – Feedback/individualized support R – Authentic assessment R – Encourage self-assessments R – Encourage peer assessments R – Encourage assessments for learning	Chesterfield et al. (2010) McCullick et al. (2005); North (2010); Turner & Nelson (2009) Mallett & Dickens (2009); Nash & Sproule, 2009; Roberts & Ryrie (2014) Demers et al. (2006); Nash & Sproule (2012); Turner & Nelson (2009) Cushion et al. (2003); Nelson & Cushion (2006); Paquette et al. (2014) Mallett & Dickens (2009); Paquette et al. (2014); Roberts & Ryrie (2014)
The Balance of Power	C – Programs designed w/ "top-down" approach R – Involve coaches in design and delivery R – Complementary learning opportunities R – Rethinking power distribution R – Active engagement in program	Côté (2006); Trudel & Gilbert (2006) Morgan et al. (2012); Nelson et al. (2013) Abraham et al. (2010); Leduc et al. (2012); Piggott (2013) Chesterfield et al. (2010); Cushion et al. (2003); Nelson et al. (2013) Chesterfield et al. (2010); Morgan et al. (2012), Vella et al. (2013)

to develop discipline-specific inquiry and learning methodologies, and to facilitate future learning. As it relates to coach education, traditional programs have been scrutinized for a lack of ecological validity and decontextualized learning environments (Cushion, Armour, & Jones, 2003; Trudel & Gilbert, 2006), which has paved the way for numerous recommendations to help remedy this significant limitation (see Table 2).

The Role of the Instructor

The instructor's role is central to Blumberg's (2009) conceptualization of LCT, as noted in her definition of LCT an "an approach that shifts the role of the instructor from one of giver of information to one of *facilitating* student learning or creating an environment for learning [emphasis added]" (p. 273). The shift in role is perhaps best contrasted using King's (1993, p. 30) metaphor, "from sage on stage, to guide on the side". This dimension is categorized into six components (see Table 1). In programs aligned with IC approaches, instructors use teaching methods in which the students are passive, that do not recognize different learning styles, and are not aligned with learning goals, if indeed these are specified. Moreover, students' motivation for achievement is gained by using extrinsic motivators, such as "participation policies, required reading assignments, and grades" (Blumberg, 2009, p. 110). In contrast, programs employing LC approaches have instructors who present and regularly readdress SMART objectives, and create intrinsically motivating learning environments by employing active learning methods that not only accommodate different learning styles, but also aligned with the learning goals and assessment methods. In coach education, standardized curriculums and delivery protocols have limited the role and potential impact of effective facilitation (Nelson et al., 2014; Werthner et al., 2012). Thus, significant attention has been devoted to the role of the instructor/facilitator with an aim to enhance the impact of coach education (see Table 2).

The Responsibility for Learning

The third dimension examines the importance of assuming responsibility for learning and the development of self-directed and lifelong learning skills. Compared to the function of content dimension, which discusses the use of self-directed learning in terms of teaching and learning methods as part of the learning *process*, in this dimension self-directed learning is presented as an *outcome* of the learning process. Upon completing an educational program, students should be equipped with skills that allow them to continually learn and adapt with the "fast-changing, globally connected world" (Blumberg, 2009, p. 127). However, as institutions and instructors create restrictive policies in an attempt to standardize the educational experience (Cullen et al., 2012), they must be cautious not to create dependent, passive, and irresponsible learners:

The more structured we make the environment, the more structure students need. The more we decide for students, the more they expect us to decide. The more motivation we provide, the less they find within themselves. The more responsibility for learning we try to assume, the less they accept on their own. (Weimer, 2002, p. 98)

This dimension is categorized into six components (see Table 1). In short, programs employing IC approaches are led by instructors who assume all responsibility for learning and assessment, and focus solely on achieving course objectives in the absence of developing further learning skills. Conversely, programs aligned with LC approaches are led by instructors who provide considerable opportunity for students to assume responsibility for their learning, and do so by facilitating the development of a variety of self-directed, lifelong learning skills (e.g., time management) and information literacy skills (e.g., framing questions and accessing sources). Within the context of coach education, researchers have recognized and criticized traditional programs for de-prioritizing learning and in turn losing sight of the learner (Armour, 2010;

Trudel et al., 2013). To this end, the literature is now replete with recommendations addressing the need to focus on the learner and the development of learning skills (see Table 2).

The Purposes and Processes of Assessment

Compared to traditional programs that have tended to put a strong emphasis on evaluation, a term that typically connotes judgment and refers to a process owned by the instructor, assessment is more commonly associated with the learning paradigm and is said to be the driving force for learning. As such, instructors must be cautious when selecting the type of assessment to support their objectives, as students will tailor their learning process to meet the demands of the intended assessment. For example, recall assessment (e.g., multiple choice questions) will lead to students taking a more surface approach to learning in an effort to memorize the content presented to them. Alternatively, *authentic assessment*, which requires students to demonstrate their knowledge and competencies similar to what practitioners and professionals do, will encourage students to take a deep approach to their learning in order to increase understanding. Assessment can be integrated into the learning process by providing students with opportunities to learn during assessment activities or by creating learning activities that include assessment components. In short, this dimension focuses on the why and how of assessment, and it is categorized into seven components (see Table 1). In programs employing IC approaches, learning is assumed to occur automatically, to be "an all but inevitable outcome of the evaluation process" (Weimer, 2002, p. 119). Therefore, with the exception of summative evaluations, instructors do not provide students with opportunities to demonstrate their learning, nor do instructors believe it is appropriate for students to play a role in their assessment or that of their peers. Conversely, in programs employing LC approaches, instructors carefully and deliberately integrate assessment within the learning process through the ongoing use of

formative assessment, peer and self-assessment, and by providing students with timely formative feedback. The purpose and process of assessment continues to be part of a growing dialogue among coach education researchers and practitioners (Mallett & Dickens, 2009; Paquette et al., 2014) with a breadth of recommendations and support being offered for the possibility of using various assessment strategies to enhance learning (see Table 2).

The Balance of Power

The educational environment is laden with power dynamics (Weimer, 2002), often disregarded by instructors who exert their control in the classroom by making all or most learning-related decisions, ironically with little or no input from the intended learners. In doing so, instructors neglect the importance of appealing to students' "sense of choice and control" – key determinants of their motivation to learn (Harris & Cullen, 2010, p. 46). Although providing students with more power has been shown to increase their engagement, motivation, and overall learning (Weimer, 2002), instructors are still hesitant to redistribute power in fear of a chaotic outcome. This dimension is categorized into six components (see Table 1). In summary, programs employing IC approaches are limited to the perspectives expressed by the instructors and to the course policies, content, learning methods, assessment methods, grading system, and deadlines they mandate (Blumberg, 2009). Furthermore, students participating in these programs, although not encouraged to be active learners and to share their perspectives, are required to attend. On the other hand, the balance of power is distributed more equitably in programs aligned with LC approaches. Instructors and students engage in ongoing negotiations in an effort to enhance the impact and effectiveness of a jointly created and governed learning environment. Moreover, the determination of how students earn grades is also part of the above-mentioned negotiations. Although the study of power relations inherent to sport coaching has been given

considerable attention (e.g., Potrac, Jones, & Cushion, 2007; Turman, 2006), the balance of power in coach education (i.e., the power of the coach educator and/or the balance of power between the instructor and coach participants) remains under-investigated (e.g., Cushion et al. 2003; Taylor & Garratt, 2010). That said, there is an awareness among researchers of the shortcomings of using 'top-down' approaches when designing coach education and of the importance of increasing coaches' involvement in their educational experiences (see Table 2).

Part 3: Considerations for Leading LC Coach Education

A major misconception is that the transition to LCT entails an 'all or nothing' approach (Blumberg, 2009). Coach educators should not be discouraged by the disconcerting notion of adopting all 29 components of the LCT framework if they wish to make the claim of being LC. Blumberg (2009, p. 223) emphasized that "even the most LC courses have some components that are not LC"; it is simply not realistic, nor is it ideal to achieve a LC standard for every component of all five dimensions. Instead, the LCT framework is intended to offer a systematic approach for educators wishing to make incremental change towards developing LC courses and programs. According to Blumberg, there are six factors to consider when determining the degree of learner-centeredness that might be employed within a program. These include: (a) the type of students; (b) the level of the course; (c) the number of students enrolled in the course; (d) the content of the course; (e) the instructor's own personal philosophy of teaching; and (f) the culture or philosophy of the campus, department or educational program. The following section briefly discusses these factors, originally intended for higher education, in light of the contextual implications for leading LC coach education.

The first four factors relate to relevant course characteristics. Coach educators looking to make changes to their programs or courses in favour of adopting LC approaches should consider

the type of students and level of the course when assessing which dimensions and components are most suitable. According to Blumberg (2009), both factors relate to the maturity and motivation of the students participating in lower- or upper-level courses. For example, in courses that are intended to serve as introductory coach education, novice coaches may require and benefit most from a learning environment in which there is increased structure and the instructor possesses a large degree of power and control. Conversely, advanced coach education courses designed to support the ongoing learning and development of experienced or expert coaches may be better suited to the adoption of LCT components that work to empower such coaches who, according to the literature (e.g., Nash & Collins, 2006; Werthner & Trudel, 2009), are likely more aware of their respective learning needs. These considerations are further supported by Trudel and Gilbert's (2013) representation and discussion of the relative contribution of different learning situations in developing coaching expertise, in which coaches are suggested to transition from being dependent to independent to interdependent learners as they pursue expertise. According to these authors, this transition is marked by coaches who can "decide on their own what is important to learn and from whom...[and] rather than waiting for learning situations to occur spontaneously, these coaches will actively seek and create such situations" (p. 18-19).

Another consideration presented by Blumberg (2009) is the *number of students enrolled in the course*. In coach education, this reflects the scale and scope of a program (i.e., number of coach participants), which will invariably influence the planning and implementation of LC approaches. For example, due to the volume of large-scale coach education, there will be additional methodological challenges in adopting certain LC components, such as many of those associated with the Purposes and Processes of Assessment and the Balance of Power dimensions. Instead of simply omitting or neglecting these components, large-scale programs may require

additional resources (e.g., facilitator assistants and technological aids) and/or innovation on behalf of the coach educator. Although the quantity of students has been considered a primary deterrent of employing LC approaches (Blumberg & Everett, 2005), student quality (i.e., maturity and motivation) is believed to have more influence on a program's prospective LC status (Blumberg, 2009).

The *course content* is also important to consider in light of its intricate connection to all five dimensions of the framework. The perceived relevance and unique characteristics of the course content, influenced to a significant extent by the discipline, can impact the degree and effectiveness of the LC approaches employed. For example, certain courses and disciplines better lend themselves to the use of open-ended assignments and authentic assessment, and provide greater opportunities for instructors to empower students in helping to determine the course content and to express alternative perspectives (Blumberg, 2009). In situations where students perceive the content to lack relevance or personal meaning, instructors are encouraged to reflect on the components relating to the Function of Content and the Role of the Instructor dimensions.

Shifting focus from the course characteristics, the final two factors look at the *personal* teaching philosophy of the instructor and the culture or philosophy of the campus, department, or the educational program. We must recognize that we are for the most part the product of the instruction paradigm (Harris & Cullen, 2010; Weimer, 2002). Our educational experiences and understanding of education have largely been shaped by this paradigm; "[it] is our first language. We don't remember how we learned it; we may not understand the grammatical structures that underpin it, but we know it and use it with great facility" (Harris & Cullen, 2010, p. 34). As long as our educational beliefs remain unquestioned, our practices will continue to be bounded by it. Harris and Cullen (2010) insisted that breaking free from a paradigm, like breaking a habit,

requires "intentionality, concerted thought, and self-awareness" (p. 35). In order to unmask the influence of the instruction paradigm, coach educators are encouraged to reflect on how their current educational philosophy and that of their sport federation/coach governing body align with the learning paradigm and LCT framework. A lack of congruence in the coach educator's philosophy may result in a need for personal transformation to ably lead and model the new approach, whereas a lack of congruence in the sport federation's philosophy may require a need for a cultural transformation involving all stakeholders (i.e., sport federation representatives, facilitators, evaluators, and coaches). Although there is a scarcity of literature that examines attempts by coach education programs to make similar paradigm shifts (e.g., Cassidy & Kidman, 2010; Hussain et al., 2012), findings from this body of research have revealed challenges faced by coach educators, such as maintaining a consistent delivery of the program and facilitating coaches with different biographies (Werthner et al., 2012), as well as resistance on behalf of the coach governing body (Hussain et al., 2012) and coach participants regarding their understanding of the underpinning learning principles (Galvan, Fyall, & Culpan, 2012; Paquette et al., 2014).

Overcoming Obstacles and Resistance

Shifting paradigms, as discussed above, involves a complex process of questioning the assumptions upon which we operate and continually reflecting on and adjusting our beliefs and practices to align with those of the new paradigm. Harris and Cullen (2010, p. xvi) aptly highlighted the inevitable challenges of changing paradigms by using the bicycle analogy:

Shifting gears on bicycles allows riders to maintain their cadence as the terrain becomes more difficult. This is most definitely *not* how shifting paradigms works. Our cadences will be interrupted. Shifting paradigms is unbalancing and unsettling because it is about shifting thinking and attitudes.

To further support educators in their attempts to increase the LC status of their courses, researchers (i.e., Blumberg, 2009; Harris & Cullen, 2010; Weimer, 2002) have provided a collection of strategies for overcoming the obstacles and resistance that are inevitable when shifting to LC programming. In relation to coach education, coach educators are encouraged to review the LC literature to develop a thorough understanding of its principles, practices, and benefits. Although there is no shortage of LC literature, we recommend the following four resources that played an integral role in the conceptualization and writing of this chapter: Barr and Tagg (1995), Blumberg (2009), Harris and Cullen (2010), and Weimer (2013). Once familiarized with the literature, resistance from coaches and administrators can be minimized by making small, incremental changes (Blumberg, 2009; Weimer, 2002). Coach educators are encouraged to go through the components of each dimension and carefully select those that they believe will be easiest to transition to LC approaches based on the list of considerations presented above. Working through this process with a partner can also help overcome obstacles (Blumberg, 2009). As mentioned above, the learning paradigm is one of collaboration – the same holds true with leading the change. It could be beneficial for coach educators to work with peers who share an interest in adopting LC approaches. Not only can working with a partner provide tremendous support, it can also enhance learning opportunities through shared insights and experiences (Blumberg, 2009; Harris & Cullen, 2010). Resistance from stakeholders (i.e., administration and coaches) can also be overcome by having coach educators share their goals and vision for change (Harris & Cullen, 2010; Weimer, 2002). Frequent and explicit communication with stakeholders can encourage a sense of shared vision, which promotes positive reinforcement and ongoing open dialogue regarding their experiences and recommendations moving forward (Weimer, 2002). Finally, the coach development literature is

void of research addressing the development and assessment of LC coach education. Coach educators are recommended to *share their experiences and success stories with others* through conferences and publications. By doing so, they will be adding to our understanding of the processes, outcomes, and challenges of implementing LC approaches in coach education.

Conclusion

If the goal of coach education is to create self-directed, lifelong learners "who can think critically and solve problems [and] who can sort out the world of daunting complexity" (Cullen et al., 2012, p. 12), coaches must be treated as learners, and the explicit facilitation of skills that enable such abilities must be prioritized. According to Weimer (2002, p. xi), "after many years, the higher education community has finally discovered learning, and a need for resources that further cultivate and capitalize on that interest". It appears that a similar discovery has been made within the field of coach education during the past decade, and although there is a growing body of research focusing on the learning coach (e.g., Armour, 2010; Trudel et al., 2013) with an emphasis on 'learner-centeredness' (Nelson et al., 2014; Paquette et al., 2014), resources that present an in-depth look at the LC theory and its implications to coach education are missing. In an attempt to work towards filling this gap, our intention for writing this chapter was to present a theoretical examination of LCT and some insight into its potential implications for coach education. Moreover, by presenting and discussing Weimer (2002) and Blumberg's (2009) LCT framework, we hope to have provided sport federations and coach educators with simple and practical strategies to support their LC initiatives. As stated by Barr and Tagg (1995, p. 23), "the learning paradigm doesn't answer all the important questions, of course. What it does do is lead us to a set of new questions and a domain of possible responses". Accordingly, we hope this chapter will cultivate new questions from both researchers and practitioners; questions that will

explore the breadth of possibilities and benefits of adopting LC approaches to help revitalize coach education.

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Recommendations for Applied Practice

- Be informed: As a program director or lead coach educator, carefully review the LC
 literature to ensure a proficient understanding of its primary tenets, philosophical
 underpinnings, and various practical approaches and strategies for delivery and assessment.
- 2. Create a culture: As a collective sport federation, devote considerable attention to creating a culture that values and supports the understanding and adoption of LC approaches by all the agents involved with the program, such as the program designers, coordinators, facilitators and evaluators, as well as the coach candidates.
- 3. Understand your program and vision: Carefully reflect on Blumberg's (2009) six factors to consider when determining the degree of learner-centeredness that might be employed within the program. Consider how these factors relate to your program and how they might influence your vision of a LC program.
- 4. Start small: Using Blumberg's (2009) comprehensive LCT framework and given the characteristics of your program, begin by adopting small strategic changes that are likely to be well-received by the various agents involved with the program. Continue with incremental changes to avoid creating additional obstacles and resistance.

Doctoral Dissertation: Kyle Paquette

Article 2

The evolution and learner-centered status of a coach education program

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Doctoral Dissertation: Kyle Paquette

Abstract

The history of coach education in Western countries, much like higher education, has been

shaped by societal influences and external drivers. The resulting trajectory includes a notable

movement and shift in focus related to educational paradigms. Being learner-centered (LC) has

become a central theme and mission by many coach education programs. The purpose of this

case study was twofold: to explore the evolution of the historically rich coach education program

of golf in Canada, and to assess the LC status of the most recently developed context of the

program using Blumberg's (2009) framework for developing and assessing learner-centered

teaching (LCT). A series of program documents and interviews with seven coach development

administrators involved in the program were analyzed. Findings revealed the turbulent epistemic

evolution of the program and its pedagogical approaches, as well as the combination of internal

and external drivers that triggered the shift from one extreme (instructor-centered teaching) to

another (LCT) until finding a functional equilibrium. Moreover, the assessment of the program

confirmed its claims of being LC. Discussions are presented on leading a LC change, facilitating

learning, and using the framework to assess LC coach education.

Keywords: Coach educator, learning, paradigm, curriculum, golf

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Introduction

The history of knowledge has forever been linked to and shaped by extraordinary societal influences and external drivers (McNeely & Wolverton, 2008). Being a primary conduit for the creation and transfer of knowledge, the institution of education is by extension no different (Schiro, 2013). The innovations that have hallmarked the history of education have predominantly emerged as "adaptive responses to challenges from the external environment" rather than forward thinking initiatives that were the leading edge of their respective societies (Quehl, Bergquist, & Subbiondo, 1999, p. 4). This phenomenon is clearly exemplified in both the American and Canadian higher education systems in the second half of the 20th century (Jones. 2012; Quehl et al., 1999). Notably, upon the conclusion of the Second World War, the education system adopted an expansion of the common factory model to meet the demands of a surge of returning war veterans (Quehl et al., 1999; Schiro, 2013); "the mission of colleges became putting more students in more classes" (Tagg, 2003, p. 17). Educational institutions turned into factories and content-centered instruction became their product (Harris & Cullen, 2010; Quehl et al., 1999). The goal of education was to complete a curriculum (which interestingly stems from a Latin word meaning "a race" or "racecourse") and to earn a diploma or degree. At that time, the instruction paradigm took hold of North American higher education (Tagg, 2003). Grounded in positivist learning assumptions, the mission of the instruction paradigm is to deliver quality instruction and to transfer quantifiable bits of knowledge from faculty to students (Barr & Tagg, 1995). Moreover, the criteria for success of this paradigm include curriculum development and student completion, as well as enrollment and revenue growth (Barr & Tagg, 1995).

In the decades that followed the establishment of the factory model, higher education in North America was forced to continue to adapt to a series of external drivers, including the Civil Rights Movement and ongoing efforts for female rights (1960s through to the late 1970s), widespread national reports criticizing the impact of education (1980s), globalization and the "Age of Accountability" in higher education (1990s), and the expansion and integration of technology, as well as a variety of Federal Legislative Acts (2000s; Jones, 2012; Quehl et al., 1999). The varied education reforms in response to these movements progressively targeted and prioritized learning and the learner's needs (Schiro, 2013; Tagg, 2003). The *learning paradigm* was conceptualized and it became the focus of much educational scholarship and practice (Barr & Tagg, 1995). Grounded in constructivist learning assumptions, the mission of the learning paradigm is to produce learning through the construction of knowledge within a powerful learning environment (Barr & Tagg, 1995). Within this paradigm, teaching methods and time vary, but the achievement of learning outcomes for each student remains constant (Barr & Tagg, 1995). Despite the increased interest and progress towards the adoption of the learning paradigm, most of the education system continues to be deeply rooted within the traditions of the dominant instruction paradigm (Cullen, Harris, & Hill, 2012; Tagg, 2003).

A review of nearly four decades of coach development literature from Western countries (i.e., Gilbert & Trudel, 2004; Trudel & Gilbert, 2006) reveals a noticeably similar history whereby programming efforts have largely been, and continue to be, adaptive responses to a variety of external influences, notably the evolving role of the coach and professionalization of coaching (e.g., Taylor & Garratt, 2013), governmental interests in enhancing sport and supporting coach education (e.g., Own The Podium, 2016; UK Sport, 2016), globalization and technological development (e.g., Piggott, 2013), a rise in coach education interest as observed by the initiation of international conferences (e.g., ICCE Global Coach Conference) and specialized academic journals (e.g., International Sport Coaching Journal), and of particular interest to this

study, innovations and theoretical advancements in learning and education (e.g., Jones, 2006; Trudel, Culver, & Werthner, 2013). More specifically, given the similarities between coaches and teachers, coaching scholars and practitioners have often looked to education to guide their efforts (Armour, 2010; Jones, 2006), and therefore it has been noted that "the resulting discourses in coaching and coach education are strikingly similar to those in teaching and teacher education" (Nelson, Cushion, Potrac, & Groom, 2014, p. 514).

In education, there is a vast body of evidence-based research that outlines the benefits of educational programming and teaching practices aligned with the *learner-centered* (LC) principles of the learning paradigm (Alexander & Murphy, 1998; Cornelius-White, 2007). Learner-centeredness is described as a perspective that focuses both on the learner and learning (McCombs & Miller, 2009; Weimer, 2013), which involves "the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners" (McCombs & Whistler, 1997, p. 9). In coach education, there is a LC undertone that is permeating the literature (e.g., Nelson et al., 2014) and the restructuring efforts of many national coach education programs (e.g., Callary, Culver, Werthner, & Bales, 2014; Paquette, Hussain, Trudel, & Camiré, 2014). To support the LC interest of coach education scholars and practitioners, Paquette and Trudel (2016) presented a well-established framework for developing and assessing learner-centered teaching (LCT, Blumberg, 2009). Moreover, links were made between the varied critiques and recommendations of traditional coach education to the five dimensions of teaching practices that change when adopting LC focus. In short, (a) the function of content becomes triggering meaningful engagement for learning in the present and future; (b) the role of the instructor becomes prioritizing the facilitation of coaches' learning and their achievement of learning

outcomes within an organized and accommodating learning environment; (c) the responsibility for learning resides with the coach who is supported to become an independent and self-directed lifelong learner; (d) the purposes and processes of assessment shift to promoting additional learning by integrating assessment into the learning process and using authentic assessment; finally, strategies to promote (e) the balance of power are carefully considered to cultivate coaches' intrinsic motivation.

In Blumberg's (2009) framework, the five dimensions of LCT are operationally defined by a series of four to seven components (29 components in total, presented in findings, see Table 4), and detailed rubrics are offered to support the assessment of each dimension and component. The content and construct of the components and rubrics have undergone empirical and expert validation processes (Blumberg & Pontiggia, 2011), making Blumberg's comprehensive framework a leading resource within the LC literature. However, despite its widespread applicability, the use of the framework to date has been limited to the domain of higher education. In both higher education and coach education, the term 'learner-centered' has become a trendy descriptor proudly worn as a badge of educational culture by many programs, institutions, and organizations (McCombs, 2014). At a time when accountability continues to be a driving force in education (Weimer, 2013) and coach education (Trudel, Gilbert, & Werthner, 2010), what it means to be LC, and resources to support the systematic development and assessment of LCT appear to be critical (Blumberg, 2009; Paquette & Trudel, 2016). Considering the influence of external drivers in both education and coach education, as well as the resulting shifts from instructor-centered (IC) to LC approaches, this study seeks to explore if and how these trends are manifested by examining the evolution of a coach education program of a long-standing sport that is rich in history and claims to have a LC program.

Golf Coach Education in Canada

The landscape of golf in Canada, like that of education and sport, has undergone considerable change throughout the years in its effort to continually adapt to ever-changing societal needs and trends, diverse political agendas, and more recently the impact of globalization. For over 100 years, golf in Canada has been predominantly governed by two associations: Golf Canada (formerly the Royal Canadian Golf Association) and the Professional Golfer's Association of Canada (PGA of Canada). Whereas Golf Canada serves as the national sport federation, the PGA of Canada acts as a non-profit regulatory body for golf professionals. It was not until 2005, when golf was approved as a government funded sport, that coaching and coach education became a cornerstone of the sport. Prior to that, the PGA of Canada had been invested in the education of its members (i.e., golf professionals) who acted as golf teachers or instructors (see Lyle & Cushion, 2010 for insight on the important distinction between teachers, instructors and coaches). The government funding and support came with several mandates for Golf Canada, most notably the creation and implementation of sport-specific long-term athlete development and coach development models. As such, Golf Canada leveraged their partnership with the PGA of Canada to expedite the delivery of both of the above requirements. As it relates to coach development, the PGA of Canada quickly partnered with the Coaching Association of Canada (CAC) to integrate their existing education program within the National Coaching Certification Program (NCCP). In the years that followed, the PGA of Canada in collaboration with Golf Canada revised golf's coach development model and programming to align with the NCCP's paradigm shift to competency-based, LC approaches.

Purpose and Research Questions

Given that educational innovations and programming are largely influenced by external drivers, "there are lessons to be learned about how innovations get started and blossom, are socialized and become mainstream, or fall dormant and die." (Quehl et al., 1999, p. 2). As part of a larger research project examining Canada's golf coach education program, this case study has two distinct purposes: in Part 1, to explore the evolution of the program from its inception to its current form as it relates to the underpinning education principles and the external drivers that prompted change; and in Part 2, to assess the LC status of the most recently developed context of the program, Coach of Developing Competitors (CDC), using Blumberg's (2009) framework for developing and assessing LC approaches.

Method

Participants

Prior to recruiting these participants, the project was approved by the researchers' university research ethics board, as well as the PGA of Canada's Chief Executive Officer (a participant in this study); he provided the names of six individuals who were involved in the conceptualization, design and/or delivery of the CDC program and/or its previous versions (see Table 1). In total, seven participants (6 male, 1 female) provided a unique perspective given their distinct yet complementary roles within the program and involvement with various program stakeholders, including the PGA of Canada, Golf Canada, and the CAC. The participants were reminded of the voluntary nature of the study and signed a consent form. The real names of the participants are used in this article with their consent. All participants were considered coach development administrators (CDAs) due to their role in supporting coach development. With respect to their demographics, the CDAs ranged in age from 27 to 70 years (M = 47.3), had all obtained post-secondary education at a college or university, and had amassed substantial and

Table 1. Participant biographies at the time of the interviews.

Participants	Age	Position	Education	Coaching Experience
Gary	57	Chief Executive Officer, PGA of Canada	BA in Physical Education; Bachelor of Education; Master's in Education	13 years, golf (Provincial level and National Program); 16 years, various sports and levels (hockey, baseball, basketball, volleyball, and soccer; club and high school)
Henry	47	National Men's Team Coach, Golf Canada	BA in Physical Education	23 years, golf (12 years as the National Team Head Coach)
Glenn	45	President, PGA of Canada; Master Learning Facilitator	Diploma in Nursing; Post- Graduate Certificate in Business Administration	19 years, golf (New Competitor); 16 years, various sports and levels (hockey, baseball, basketball, cross-country; school, community and Bantam AAA)
Tom	70	Curriculum Writer, PGA of Canada	BA in Physical Education; Master's in Education	40 years, various sports and levels (basketball, volleyball, soccer, badminton and athletics; club, high school, college)
Jean	37	Coaching Consultant, Coaching Association of Canada	BA in Human Kinetics; Masters in Sports Management	16 years, hockey (Minor clubs, Senior AAA, U18 Canada winter Games, NCAA Division 1)
Jeff	48	Chief Sport Development Officer, Golf Canada	BA in Physical Education	10 years, alpine (Provincial level and National Program); 8 years triathlon, National level
Morgan	27	Manager of Education, PGA of Canada	BA in Psychology; Post- Graduate Certificates in Adult Education, and Sport and Event Marketing	8 years, curling (Learn to Curl, beginner adults; 1 year Junior Men's Regional Level)

diverse experiences in sport, both as athletes and coaches in a variety of sports and across different competitive contexts. Overall coaching experience ranged from 2 to 40 years (M = 19.7 years), and coaching experience in golf ranged from 0 to 28 years (M = 7.9 years).

Data Collection

Table 2 presents an overview of the key moments in the evolution of the of Canada's golf coach education program and the sources of data used in this study, including program documents and participant interviews, as well as the detailed account of the CDAs' involvement in the program over time. A series of five documents were collected from the PGA of Canada:

Table 2. Evolution of Canada's golf coach education program.

		1985	1995	1999	2010
Education programs		National Teaching Manual	Teaching Certification Program (TCP)	Teaching Coaching Certification Program (TCCP)	National Coaching Certification Program (NCCP)
Contributing events/drivers		George Knudson retired from professional golf and transitions to golf instruction	 Change in governance at the PGA of Canada Member development program is reviewed Socratic approaches popularized in education 	 Education program is reviewed The golf industry and business of golf instruction grow rapidly Henry is hired by Golf Canada as Director of instruction Gary and Henry lead program re-design 	 Golf is recognized by Sport Canada TCCP is integrated with the NCCP; golf coaching is officially recognized New NCCP adopts competency-based approach (popularized in education) following a program review Golf is re-introduced as an Olympic event
Data Sources					
Documents		1	No copies available	1 (Levels 1-5)	3 (CDC context)
Interviews	Gary	Candidate	Facilitator	Co-creator, facilitator	Co-creator
	Henry	Candidate	Candidate	Co-creator, facilitator	Contributor
	Glenn		Candidate	Participant, facilitator	Co-creator, master facilitator
	Tom			Curriculum writer	Curriculum writer
	Jean			CAC consultant	CAC consultant
	Jeff				Contributor
	Morgan				Administrator

three documents published in 2010 outlining the design, delivery, and evaluation process of the CDC program: (a) Candidate Workbook (187 pages, CAC, 2010a), (b) Facilitator Guide (183 pages, CAC, 2010b), and (c) Evaluator's Guide (79 pages, CAC, 2010c); and two documents relating to previous versions of the program's curriculum: (d) National Teaching Manual (79) pages, PGA of Canada, 1985) and (e) the Teaching and Coaching Certification Program Apprentice Workbook (Levels 1-5, 201 pages, Bernard, 1999). In addition, two in-depth semistructured interviews (Brinkmann, 2013) were conducted with each CDA (n = 14 interviews). Due to the geographical widespread of the CDAs, eight interviews were conducted in-person and six were conducted by phone. The first interview (M = 71 minutes; R = 45-111 minutes), largely influenced by the constructivist-based coach development literature, explored the CDAs' (a) biographies (i.e., age, gender, and athletic experiences), (b) experiences and philosophies related to coaching, education, and coach education, and (c) experiences related to the CDC program's conceptualization and design. Approximately three months later, following the initial coding of the first interviews and guided by the LC literature, the second interview (M = 60 minutes; R =32-114 minutes) examined in more detail the participants' perspectives of the CDC program's (a) content, (b) delivery process and facilitator training, and (c) assessment and evaluation structure. During the very first few interviews, there was repeated reference to the previous versions of the program. As such, the documents associated with these prior versions (i.e., Bernard, 1999; PGA of Canada, 1985) were obtained by the researchers, and they influenced the remainder of the first interviews and the entire second round of interviews.

Part 1: Program Evolution

Data Analysis

To analyze the evolution of the program, interviews were transcribed verbatim and uploaded into the qualitative analysis software NVivo 10 to assist in coding and data management. The analysis of the transcripts was guided by Braun, Clarke, and Weate's (2016) six-phase thematic analysis protocol. During the initial phase of analysis (phase 1), the primary researcher devoted considerable time familiarizing himself with the data by means of listening to each interview recording, reading each transcript multiple times, and making notes related to interesting data or data specifically linked to the research questions (Braun et al., 2016). The transcripts were then carefully and thoroughly coded inductively and deductively according to the themes targeted in the interview guides, such as coaching philosophies, program facilitation and assessment strategies (phase 2). Next, the coded data were clustered together "to identify 'high-level' patterns" (i.e., candidate themes, Braun et al., 2016, p. 198). Once again, both inductive and deductive methods (i.e., dimensions of LCT) guided the development of candidate themes (phase 3). Candidate themes were then reviewed and refined, and in some cases themes were merged together to form new themes (phase 4). Once labeled and reviewed to ensure their appropriate representation of the data gathered (phase 5), the *finalized themes* were organized into an initial draft for this article (phase 6). The two documents relating to previous versions of the program's curriculum were reviewed throughout the analysis, and ongoing collaboration with the second author and a 'critical friend' (Tracy, 2010) led to subtle, yet important edits in the final presentation of themes. Using a relativist approach, careful consideration was given to the coherence, credibility, and transparency of the analysis procedures and findings (Burke, 2016), specifically by means of prolonged engagement, peer debriefing, and using member checks.

Findings

The CDC program has evolved from three prior PGA of Canada education initiatives that have all been designed to support the professional development and teaching competencies of golf professionals (see Table 2). The three initiatives include the National Teaching Manual, the Teaching Certification Program (TCP), and the Teaching and Coaching Certification Program (TCCP). The participant interviews and program documents revealed a turbulent epistemic evolution of the program and its pedagogical approaches, as well as a combination of internal and external drivers that triggered a recurring restructuring of the strategies that shaped the various iterations of the program's design, delivery, and evaluation.

The way to teach (National Teaching Manual – 1985). The PGA of Canada's first systematic effort to influence the teaching competencies of golf professionals came in the form of the National Teaching Manual, developed in 1985 by a committee lead by the Education Chairman at that time, Jack McLaughlin⁷. The initiative however was primarily driven by George Knudson⁸, a famous Canadian professional golfer and member of the PGA of Canada. In the late 1970s, Knudson left tournament golf and shifted his attention to golf *instruction*. Given his fame and accomplishments as a player, he became a highly sought after golf instructor. As such, the PGA of Canada enlisted his services, and "he guided the creation of the program and travelled across the country to passionately pass along his ideas and to deliver *his way of teaching* [emphasis added]. His intentions were to help golf professionals teach better golf' (Henry). Henry continued: "It was a method...and it was delivered how he thought it should be, the way he believed golf *should be taught* [emphasis added]. Although well-intended, people got offended and very upset". Gary added, "Despite being revered by many people, Knudson's

⁷ The PGA of Canada National Junior Leader award given annually to the golf professional in recognition of his or her outstanding leadership in junior golf is named in honour of Jack McLaughlin

⁸ The PGA of Canada National Teaching award given annually to the golf professional in recognition of his or her outstanding service as a golf instructor is named in honour of George Knudson

message was misconstrued that the *only way* you can teach is how Knudson did [emphasis added]. That's not what he was intending to say, but that's how it was being presented and received." Following considerable resistance and unfavourable feedback by participants due to the IC approaches of the initiative, the PGA of Canada's National Teaching Manual "never was able to generate any momentum and was quickly squashed." (Henry)

Socratic learning (TCP – 1995). In the early 1990s, the PGA of Canada devoted considerable attention to the standardization and rigor of its membership requirements and member development program. These efforts lead to the development of the Enhanced Learning and Innovative Training and Education (ELITE) Apprenticeship Program in 1995 – a sevenstage process that aimed to provide aspiring professionals the opportunity to acquire the knowledge and competencies required to succeed in the golf industry (PGA of Canada, 2016). Completing the program became a requirement to receive a Class "A" member status of the association. Among the knowledge and competencies targeted, the newly developed TCP was included to help ensure a basic teaching competency among professionals. It was developed by a committee lead by Ben Kern⁹, now a Canadian Golf Hall of Fame Member. To avoid the feedback and resistance encountered by the National Teaching Manual, the PGA of Canada looked to higher education for support by enlisting the services of a professor (and avid golfer) from the Faculty of Education at the University of Ottawa. Given the educational trends and interest of the professor at that time, the TCP "became a Socratic initiative, guided entirely by Socratic learning principles [emphasis added]" (Henry). The underlying belief of the program was that "people had the information and it was about having a program that could draw it from them so they could formulate their own style and way of teaching...nothing was being forced on

⁹ The PGA of Canada National Coaching award given annually to the golf professional in recognition of his or her outstanding service as a golf coach is named in honour of Ben Kern

people" (Henry). Gary, a TCP facilitator, reflected on the program's extreme and misguided reliance on collaborative learning and the participants' responsibility to drive the production of content and knowledge:

It was all based on cooperative, collaborative learning, but the challenge was we were not steering from the top. It's great to have people collaborating from the bottom up, but someone has to be steering from the top – not telling people what to do, but there has to be a body of knowledge or a starting point to guide the learning.

Glenn, who participated in the program as an apprentice professional, shared Gary's sentiments, adding: "The participants would sit around discussing teaching for hours, so the good news is that teachers were interacting, but the problem was there was *no foundation...* there was *no content* [emphasis added]" (Glenn). Henry, also a TCP participant, noted: "The facilitator would give you, believe it or not, a binder with blank pages...there was no material. People were supposed to write down the ideas of the group, and take those ideas to formulate *their own way of doing* [emphasis added]". Gary confirmed the loose structure and dearth of content, and reflected on challenges as a facilitator:

My binder was full of blank pages. I would only have headings to guide me. I would have to facilitate group discussions at times for hours on the minutia of an aspect of the golf swing. If we couldn't agree on something, we wouldn't put any content under a heading. Glenn recalled an experience in accordance with Gary's comments: "I remember the entire group of guys argued for seven hours about what picture should be used to illustrate the correct grip, and they couldn't come to an agreement, so they didn't put anything in". The challenges of facilitating a program like this were too much for nearly all of the program's facilitators: "It was extremely challenging. We started out approximately 20 facilitators across the country and at the

end, I was the only man left standing. I was the only one who would do it" (Gary). However, he was quick to point out, "the people who were designing the program were extremely well-intentioned...unfortunately, they didn't know much about curriculum development...[or] had a good grasp of the theory". After a few years of struggling to positively influence the teaching competencies of golf professionals, the TCP came to end. "It wasn't well-received at all.... The PGA of Canada needed something with more structure that could have more impact" (Henry).

Finding a balance (TCCP – 1999). Despite the intentions and expertise driving the two prior initiatives, their polarizing educational approaches and underlying learning philosophies proved to be problematic. In response to a program review and the ongoing need to address the teaching component within the ELITE program, in 1998 the PGA of Canada recruited the help of one of its highly-respected members, and a leader in golf teaching, Henry (one of the participants of the study). According to Gary, "there were very few people, if any, in Canada at that time who had the knowledge, expertise, and passion for the game, like Henry". He added:

Fortunately, they [the PGA of Canada] hired Henry to create the TCCP, and he asked me to help him. The message was clear – golf professionals were going to be accountable and responsible for their learning. We added *evidence-based content* and evaluation mechanisms [emphasis added]. Without Henry, without that program, we would not be where we are today.

Gary and Henry both spoke of the importance of using lessons learned from the shortcomings of the previous education initiatives to help inform the development of the TCCP: "We reflected on the past attempts and their limitations.... Moving forward we needed legitimate content, scientifically valid information about how people learn, motor skill learning, sport sciences…not opinions." Gary discussed the philosophy that guided the delivery of the content:

"The style of facilitation was going to be more aligned with 'guide on the side' as oppose to the 'sarge in charge'.... It was going to be about promoting *lifelong learning*...and helping the learners learn as they go [emphasis added]". He continued, "We were presenting information, world-class information from experts around the world, but we were not presenting *the way* to do it. There is no *the way* to do it [emphasis added]".

The program consisted of a progressive five-level knowledge-based approach to training and certification, with each level involving a one or two-day workshop and the completion of practical assignments and book reporting. All of which allowed the participants to engage in the content based on their personal and contextual teaching needs. Even prior to the TCCP's integration with the NCCP, the two programs shared many resemblances related to the design, delivery, and evaluation strategies. Jean, CAC advisor to golf, reflected on the program's quality when it was first presented to him: "The TCCP was pretty exceptional. It had some really great stuff in it...no surprise given the people who put it together." Despite a markedly improved program, Henry and Gary both spoke of the initial challenges they faced facilitating the new program given the association's prior education initiatives:

We had to fight through some very bad feelings from the guys across Canada. We had many people say, 'not another program, this one is never going to work either'. Then, they got a taste of it; thankfully they loved it, and we had tremendous buy in. (Henry) Indeed, "a new culture was created within the Association" (Henry), and the feedback from participants was encouraging, as noted by Glenn who participated in the TCCP:

The content was new and involved fairly cutting-edge sport science research, so that was pretty cool. The concept of coaching was also being used for the first time in this type of

setting. That definitely started to peak my interest in learning and the process of education. I know it did for a lot of our members.... I still get great feedback to this day.

Learner-centered (NCCP – 2010). Following the announcement of golf becoming a government funded sport in Canada, Golf Canada and PGA of Canada partnered with the CAC and integrated the TCCP with the NCCP's knowledge-based approach. Following a comprehensive review of programming and influenced by an increase in popularity of competency-based approaches in education, the CAC initiated a program-wide re-structuring. As such, all sports, including golf, were required to align their programs with these changes. At the time of the change, the PGA of Canada was well positioned to embrace the new philosophy and the required changes: "To develop something like this you need a group of leaders, and we were fortunate to have a group of four very knowledgeable people leading the charge...they all understand education, and they all worked so well together" (Morgan). The four individuals included Gary, Glenn, Tom, and Jean, and "together we all understood that the whole premise was to be *learner-centered and to facilitate learning* [emphasis added]" (Gary).

Tom, the curriculum writer, was an integral part of the leadership team having spent more than 40 years in education, occupying a variety of positions and roles, including mentoring Gary during his time as a university student. Learner-centeredness was not a new concept for Tom. He spoke at length and about the time he became aware of the importance of focusing on learning:

I had a light bulb go on in the Spring of '91, and I was able to finally articulate what was bugging me for some time. The education system is organized around this human activity called *teaching*, but it needs to be reorganized around the human activity called *learning* [emphasis added]. We need to change our thinking from one that focuses on teaching to one that focuses on learning. That sounds very simple, but it changes everything.

Tom explained his initial thoughts about the NCCP's LC efforts and resource material:

We wanted to take a LC approach. My role was to take golf-specific material, theoretical materials from the NCCP, and some of my own teaching/learning methodology materials, and put it all together.... When I began to look at the NCCP materials, I said 'holy shit they've already got it, they understand!' I was delighted. Now, not all of the materials are faithful to the philosophy, but by God they're trying.

All four individuals who helped lead the charge on behalf of golf were extremely complimentary to the insight and contribution that one another made to the new program. Jean, the CAC advisor for golf, specifically highlighted the value that Glenn brought to the program and its LC efforts: "Golf did a great job finding and training exceptional facilitators, and there's nobody better than Glenn. He is a true facilitator of learning... he has no ego... he truly embodies what it means to be LC." Jean continued by noting that "thanks to the efforts of Gary and his team, golf's program is considered by many as a gold standard in the Canadian sport system". A final comment from Gary at the conclusion of his second interview provided a sensible perspective on the importance of the history and continued progression of the program:

Looking at the evolution of a program – if we hadn't done and gone through what we did, who knows where we would be today. I'm not criticizing the people involved...It's the natural progression of a program. I'm hoping when I'm a life member, we see similar progression from what's happening today, so in 20 years from now it's way better.

An in-depth assessment of the LC status of the CDC context of golf's NCCP is presented below.

Part 2: CDC Program Assessment

Data Analysis

The analysis of the three CDC program documents was guided by Blumberg's (2009) LCT framework and recommendations for using her rubrics in a formal assessment of educational programs. The rubrics make use of four levels of rating to assess the degree of LC implementation: (a) employs instructor-centered approaches, (b) lower level of transitioning, (c) higher level of transitioning, and (d) employs learner-centered approaches (Blumberg, 2009). Depending on the LCT component, these four levels of rating are differentiated using three types of gradations: quantitative gradations (i.e., frequency of LCT approaches), qualitative gradations (i.e., distinct pedagogical approaches), and gradations involving sub criteria (i.e., integration of some or all sub criteria). For all 29 components, a short description of each rating level is presented in the rubrics. Additionally, Blumberg provides detailed explanation of each component and examples of educational practices to guide the analysis of documents. For example, see Table 3 for the four rating levels of "Level to which students engage in content" (component 2 of the function of content). Moreover, given that both the frequency of content and interpretation of the appearance of content ultimately determine the component ratings within Blumberg's rubrics, a summative approach to qualitative content analysis (Hsieh & Shannon, 2005) proved to be an appropriate protocol to support the analysis of the three CDC documents. Unlike a manifest content analysis that focuses solely on the mere word or content count, a summative content analysis "starts with identifying and quantifying certain words or content in text with the purpose of understanding the contextual use of the words or content" (Hsieh & Shannon, 2005, p. 1283). Prior to beginning the initial coding, the documents were studied thoroughly by the primary researcher to increase familiarity with the content. In line with the first stage of analysis, the documents were uploaded into the qualitative analysis software NVivo 10 to assist in coding and data management. Given the specificity and sometimes subtle nuances

Table 3. Example of LCT rubrics and rating levels (adapted from Blumberg, 2009).

		Level of transitioning		_	
Component	Employs IC approaches	Lower level of transitioning	Higher level of transitioning	Employs LC approaches	
2. Level to which students engage in content	Instructor allows students to memorize content	Instructor provides content so students can learn material as it is given to them without transforming or reflecting on it	Instructor assists students to transform and reflect on <i>some</i> of the content to make their own meaning out of <i>some</i> of it	Instructor encourages students to transform and reflect on <i>most</i> of the content to make their own meaning out of it.	

between components, each dimension and corresponding component was assessed independently and sequentially; therefore, the three documents were analysed concurrently 29 times. A complete analysis of the documents was completed in Spring 2013. Following a 1-year leave of absence taken by the primary researcher, a complete secondary analysis was performed to help re-familiarize him with the data, as well as to test intra-rater reliability. Additional efforts to increase the credibility and transparency of the analysis included the recruitment and utilization of peer support and routine peer debriefing (Tracy, 2010), all performed prior to re-visiting the original analysis. The secondary analysis yielded a 82.7% intra-rating reliability with 24 of 29 components rated the same in both analyses; the ratings of four components improved one level (components 1.3, 3.4, 3.5, 4.4), and the rating of one component went down one level (component 2.5; see Table 3).

Findings

A complete assessment of the CDC program relative to the degree of implementation of all 29 components of Blumberg's (2009) LCT framework is presented in Table 4. Overall, one component was rated as "Employ instructor-centered approaches" (3.6 Information literacy skills), four components as "Lower level of transitioning", 10 components as "Higher level of

Table 3. Assessment of the CDC program relative to the degree of implementation of all 29 components of Blumberg's (2009) LCT framework.

Dimensions of LCT	Components	Rating	
1. The Function of	1.1 Varied uses of content	***	
Content	1.2 Level to which students engage in content	***	
	1.3 Use of organizing schemes	*** (**)	
	1.4 Use of content to facilitate future learning	****	
2. The Role of the Facilitator	2.1 Creation of an environment for learning through organization and use of material that accommodates different learning styles	***	
	2.2 Alignment of the course components for consistency	****	
	2.3 Teaching or learning methods appropriate for student learning goals	****	
	2.4 Activities involving student, instructor, content interactions	***	
	2.5 Articulation of SMART objectives	*** (****)	
	2.6 Motivation of students to learn	***	
3. The Responsibility	3.1 Responsibility for learning	***	
for Learning	3.2 Learning-to-learn skills or skills for future learning	**	
_	3.3 Self-directed, lifelong learning skills	****	
	3.4 Students' self-assessment of their learning	**** (***)	
	3.5 Students' self-assessment of their strengths and weaknesses	**** (***)	
	3.6 Information literacy skills	*	
4. The Purposes and	4.1 Assessment within the learning process	****	
Processes of	4.2 Formative assessment	***	
Assessment	4.3 Peer and self-assessment	***	
	4.4 Demonstration of mastery and ability to learn from mistakes	*** (**)	
	4.5 Justification of the accuracy of answers	****	
	4.6 Timeframe for feedback	**	
	4.7 Authentic assessment	****	
5. The Balance of	5.1 Determination of course content	****	
Power	5.2 Expression of alternative perspectives	****	
	5.3 Determination of how students earn grades	****	
	5.4 Use of open-ended assignments	**	
	5.5 Flexibility of course policies, assessment methods, learning methods, and deadlines	**	
	5.6 Opportunities to learn	****	

Note: Rating of * = Employs instructor-centered approaches, ** = Lower level of transitioning, *** = Higher level of transitioning, **** = Employs learner-centered approaches.

transitioning", and 14 components as "Employs LC approaches". In this section, given the objectives of the paper and space limitations, detailed findings will be presented in relation to six components Blumberg identifies as being particularly relevant when planning and implementing LCT with non-traditional or older students, as well as for professional-level courses given the typical characteristics and biographies of the learners in question – both of which are aligned

with the CDC program and more broadly with the current landscape and context of coach education: (a) Responsibility for learning (3.1), (b) Learning-to-learn skills for present and future learning (3.2), (c) Self-directed, lifelong learning skills (3.3), (d) Students' self-assessment of their learning (3.4), (e) Students' self-assessment of their strengths and weaknesses (3.5), and (f) Authentic assessment (4.7).

Responsibility for learning (3.1). Rated as "Higher level of transitioning". According to the rubric, this rating suggests the "instructor provides some opportunities for students to assume responsibility for their own learning". The "Camp Learning Environment", as documented in the Candidate Workbook (CAC, 2010a), provides coaches with a clear and comprehensive overview of the program's guiding principles and "general tips" to help coaches assume responsibility for their learning through a variety of active teaching and learning methods (e.g., peer collaboration and problem-solving activities). Coaches are encouraged to engage in ongoing reflection, share their experiences with their peers, document changes in their perspective throughout the activities, and to consult the reference material and complete the activities more thoroughly outside the camp on their own. Moreover, the program's evaluation component places the responsibility on the coach to initiate the process when he/she is prepared to do so. Conversely, the program is guided by a rigid framework that focuses on the achievement of a collection of learning outcomes (as presented by a series of specific criteria and evidence of achievement) mandated by the sport federation in conjunction with the NCCP. As such, the program and facilitator assume some of the responsibility for learning in that coaches are provided with detailed learning aids, such as reference material and elaborate evaluation tools and templates.

Learning-to-learn skills for present and future learning (3.2). Rated as "Lower level of transitioning". According to the rubric, this rating suggests the "instructor directs students to

develop a few skills for further learning". Among the many skills proposed by Blumberg (2009), such as time management, self-monitoring, and how to conduct original research, self-assessment and goal-setting were the only two learning-to-learn skills that coaches were directed to engage in both as part of the training and evaluation process. Details of the program's integration of self-assessment skills are presented below. Regarding goal-setting, after each module in training, coaches are asked to create goals of "things I plan to continue" and "things I hope to improve" (CAC, 2010a, p. 51). As part of the "Candidate Self-Assessment" in the evaluation package, coaches must list goals related to "Two things that I would like to develop in the next year" and "My aspirations for the future" (CAC, 2010c, p. 48). Although many learning skills are implicitly incorporated into the design and delivery of many activities, the program generally does not emphasize the explicit development of these skills.

Self-directed, lifelong learning skills (3.3). Rated as "Employs learner-centered approaches". According to the rubric, this rating suggests the "instructor assists students to become self-directed, lifelong learners in a few areas and somewhat aware of their own learning and abilities to learn". Problem-based learning (PBL) is a LC approach that encourages the development of self-directed, lifelong learning skills (Blumberg, 2009), and it is clear the program subscribes to this approach throughout training. At the onset of the training camp, coaches are provided with the following instructions (CAC, 2010a, p. 4):

At the beginning of most steps in training, you will be given a few minutes to answer some questions or take part in an activity...as best you can based on your current knowledge.... You will be given time to make note of how your viewpoint may change as a result of consulting the Reference Material and discussing with others. The act of recording these changes in thinking is an important part of retaining new learning.

In addition to employing a PBL approach, many activities encouraged coaches to use real-life athletes or examples to guide their engagement with the content and personal reflections, for example: "Based on the information you provided about your athletes in the Athlete List Worksheet, identify the factors that can enhance their performance in golf given their Competitor Development context" (CAC, 2010a, p. 103). According to Blumberg (2009, p. 133), using these strategies supports coaches in "developing an intrinsic motivation to learn based on their own questions and their desire to solve relevant problems".

Students' self-assessment of their learning (3.4)/strengths and weaknesses (3.5). Both components were rated as "Employs learner-centered approaches". According to the rubric, these ratings suggests the "instructor motivates students to routinely and appropriately assess their learning" (3.4) and "encourages students to become proficient at self-assessment" (3.5). In line with LC approaches, the program consistently incorporated self-assessment activities to help coaches reflect on and to assess both their learning and strengths and weaknesses as they progressed through training. In addition to reflective questions built into many learning activities to get coaches to self-assess following the completion of the activity in question, each module culminated with a structured "Self-assessment" and "Action card". The self-assessment is designed to help coaches "reflect on [their] current coaching practices and...to identify areas of strength and areas for improvement" (CAC, 2010a, p. 54). Using a four-point scale (1 = Not at all; 2 = Somewhat; 3 = Mostly; 4 = Definitely), coaches are asked to indicate whether or not the module helped them achieve the predetermined learning outcomes. Moreover, action cards require coaches to document "Gems" (Things I am doing well and plan to continue) and "Opportunities" (Things I hope to improve). As described in the Candidate Workbook (CAC,

2010a, p. 4), the action plans are intended as "reminders of actions you [the coach] wish to take in the future based on what you have just learned – or re-learned".

Authentic assessment (4.7). Rated as "Employs learner-centered approaches".

According to the rubric, this rating suggests the "instructor uses authentic assessment throughout the course". The program's evaluation process was deliberately designed to mimic the reality of golf coaching by using real-world situations – a key characteristic of authentic assessment (Blumberg, 2009). Following a competency-based framework set forth by the NCCP, all evaluation activities within the program are directly linked to the specific learning and competency outcomes outlined at the onset of training and evaluation, such as creating, delivering, and assessing the effectiveness of practice plans and training sessions (CAC, 2010c). Moreover, most training activities incorporate authentic assessment components, both to support coaches' engagement in contextually relevant content and to provide additional and diverse opportunities for coaches to learn. For example, in line with the PBL approach, "scenarios to analyze" were used throughout training to simulate relevant coaching demands. These activities

Discussion

often culminated in self-reflection, peer debriefing, or group discussions.

The findings from this case study (from both Parts 1 and 2) presented a coach education program's evolution and current assessment of its LC status. Like a pendulum, the program's epistemic principles and pedagogical approaches swung from one extreme (i.e., ICT) to another (i.e., LCT) until finding a functional equilibrium (see Figure 1). A combination of internal and external drivers was shown to trigger the swinging of the pendulum throughout the program's evolution, including (a) program reviews and the dissatisfaction and resistance from the learners (i.e., coach participants) related to the adoption of extreme teaching methodologies, (b) changes

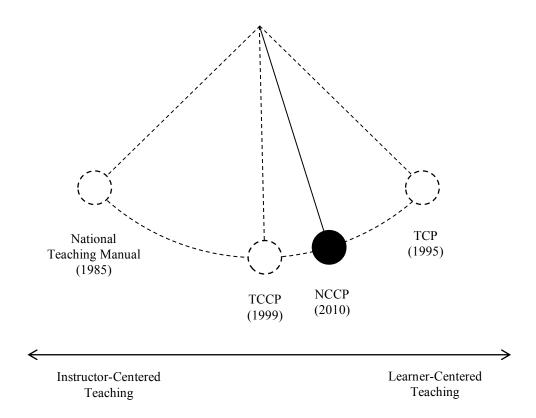


Figure 1. Overview of the epistemic evolution of Canada's golf coach education program.

in governance, (c) trends in education, (d) systemic and governmental alignment requirements, and (e) continuity of key people involved. The first version of the program (i.e., National Teaching Manual) was congruent with ICT, whereby "the way to teach" golf was the message delivered by a former professional golfer turned golf instructor. In need of change, the pendulum swung to the opposing end of the continuum (see Figure 1) by employing extreme and misguided dimensions of LCT. An attempt to leverage an educational trend at the time, Socratic learning, resulted in a program that gave up power as opposed to sharing it, and relied on an instructor to guide discussion and peer interactions in the absence of content. The extreme pedagogical approach proved to be polarizing, and following a program review and the recruitment of Henry, the pendulum swung back to find its equilibrium position (i.e., TCCP). With a functional framework and curriculum in place, the program calibrated its methodologies to better align with

the NCCP's competency-based, LC guidelines. Finally, due to various contributing events presented in Table 2, the pendulum shifted back slightly towards LCT as supported by the assessment of the CDC program in Part 2 of this study. In line with Blumberg's considerations for LC implementation for courses with characteristics typical of coach education (i.e., older, professional level students), the program's LC claims have been substantiated by the assessment.

Leading LC Change

Central to the transition to LC approaches, as shown is this study, is effective leadership (Doyle, 2011; Tagg, 2003; Weimer, 2013). Learner-centered leaders are said to benefit from having strong intrapersonal knowledge and skills, creativity, and tenacity (Cullen et al., 2012, Harris & Cullen, 2010). These qualities support the efforts of LC leaders to prioritize building community, sharing power, establishing trust, and creating a shared vision among program stakeholders – all cornerstones of the learning paradigm (Cullen et al., 2012; Weimer, 2013). The process of shifting paradigms requires leaders "who fully understand the concept of the LC paradigm and who are willing to reconsider their roles in light of this new paradigm and to adopt practices that reflect the culture and value of the LC paradigm" (Harris & Cullen, 2010, p. 34). It is recommended that LC leaders take time to review the LC literature to expand their understanding of the epistemic principles of the learning paradigm, teaching methodologies, assessment strategies, and how the role and responsibility of both the teacher and students change when we shift to the learning paradigm (Blumberg, 2009; Weimer, 2013). Recently, Blumberg (2016) presented a series of useful practical strategies to help leaders promote LCT based on Roger's (2003) theory of Diffusions of Innovations. We encourage readers interested in leading LC innovations to consult this valuable resource.

Although program leaders have been part of coach education research (e.g., Cassidy, Potrac, & McKenzie, 2006; McCullick, Belcher, & Schempp, 2005), it is rare they have been the topic of it (e.g., Hussain, Trudel, Patrick, & Rossi, 2012; McQuade & Nash, 2015). As such, our understanding of the individuals in charge of coach education, and more broadly the role itself, is very limited (Horgan & Daly, 2015; Trudel et al., 2013). In an effort to address this gap, Trudel and colleagues (2013), provided a series of practical considerations for *coach development administrators* (CDA) interested in adopting a constructivist approach to coach education. These considerations were positioned as part of a broader recognition of the inherent challenges and implications of shifting paradigms, and they all align with LC principles. Although research is scarce, Hussain et al. (2012) found the CDA to play a central role in the success of a program using innovative learning approaches, as well as the influence of the CDA's biography on the conceptualization and implementation of the program.

The findings from this study revealed that the golf's efforts to adopt a LC coach education program were led by Gary. Given his involvement in all four versions of the program (as a candidate, facilitator, and CDA), he has a firsthand understanding of the areas where the program has succeeded and failed, as well as the underlying rationale. His tenacity is evidenced by his continuity with the program in spite of the obstacles and resistance he faced as a facilitator of the TCP and both a facilitator and co-creator of the TCCP. Through his interviews, it became clear that he understood the importance of building community and sharing power. This was demonstrated when he assembled a leadership team of individuals (Glenn, Tom, and Jean) who not only shared significant educational experience and passion for coach development, but who possessed similar epistemic perspectives aligned with LC approaches. Furthermore, despite some

of the challenges he faced, it is important to recognize that Gary's LC leadership efforts that guided the development of the program were being fully supported by the CAC.

Facilitating Learning

A noteworthy aspect of the program's evolution is the shift in teaching philosophies and methodologies. From George Knudson, to Gary and Henry, and then to Glenn, it is clear that the role and scope of the program instructors, as well as the attention to the training of these individuals has been greatly influenced by the program's epistemic evolution. The role of the teacher has long been viewed as a primary discriminant factor between LC and IC programs (Barr & Tagg, 1995; Weimer, 2013). The terms teacher and instructor are commonly used to describe the individual responsible for supporting student learning in the classroom. Many metaphors have been used to enhance our understanding of the role of the teacher when programming shifts to being LC. These metaphors include a *sport coach* who participates during the game to support the athletes, but from the sideline (Barr & Tagg, 1995); a gardener who prepares the ground, provides nourishment, and cultivates (Fox, 1983); a mountaineer or guide who joins the travelers to support their journey and to ensure their safety and success (King, 1993; Marini, 2000); and a *maestro* who helps a group of musicians playing different instruments to create beautiful music together (Eisner, 1983). These metaphors are used to highlight the facilitative and guiding role of instructors who "position themselves alongside the learner and keep the attention, focus, and spotlight aimed at and on the learning process" (Weimer, 2013, p. 76). Weimer also asserted, "with learner-centered teaching, the role [of the instructor] is not optional" (p. 74). The effectiveness of LC methods depends on the instructor's willingness to centralize and empower the learner within a carefully designed learning environment that is both active and collaborative (Cullen et al., 2012; Schiro, 2013).

The role of the instructor has also been the topic of discussion in the coach education literature. Trudel and colleagues (2013) suggested the term *facilitator* be used if coach education programs aim to align themselves with constructivist principles, the foundation of LC approaches. The specific use of language to describe the role of the 'messenger' in the learning environment is congruent with the dichotomy of educational paradigms presented by Barr and Tagg (1995). In the instruction paradigm, the focus is on the instructor and the quality of instruction; whereas in the learning paradigm, the focus shifts to student learning and the appropriate facilitation of learning. Many credit the seminal work of Carl Rogers (Rogers, 1969) for introducing the notion of educators as facilitators of learning (e.g., Doyle, 2011). Within coach education scholarship, Nelson et al. (2014) have discussed the potential contribution of Rogers' theorizing to LC facilitation. Moreover, a variety of recommendations have been made to contribute to the role and effectiveness of facilitators. For example, researchers have encouraged CDAs to carefully select and train facilitators (Paquette et al., 2014; Trudel et al., 2013) to help them understand and embrace the role of facilitation (Nelson et al., 2014; Werthner, Trudel, & Culver, 2012), and to increase both coaches' peer interactions (Cassidy et al., 2006; Jones, Morgan, & Harris, 2012) and the amount of in-course collaboration between them and coaches (Chesterfield, Potrac, & Jones, 2010; Roberts & Ryrie, 2014). For additional insight on learning facilitation and facilitator qualities, we recommend the following resources: Doyle (2011); Nelson et al. (2014); Trudel et al. (2013).

Assessing LC Status

Blumberg's (2009) LCT framework is designed to be a multipurpose tool for facilitating change and assessment. More specifically, the suggested use for the framework includes helping educators (a) to begin the LC transformation process with their courses and programs, (b) to

identify strategies for incremental change towards LCT, and (c) by means of formal assessment, to determine the LC status of educational programs or teaching dossiers. A total of 29 components are presented in five rubrics using four levels of LC rating. An overview of each component is also presented with accompanied empirical support. In addition to being comprehensive, the rubrics are well defined and effectively organized to increase the ease of understanding and utility by researchers and practitioners. In spite of this, using the framework to assess the LC status of the CDC program did present noteworthy challenges to the researchers. The initial challenge related to the daunting task of becoming familiarized with the rubrics and fully understanding the sometimes subtle nuances it presents. Moreover, not all components translated into apparent and tidy sections within the program documents that could easily be identified and coded. Therefore, it required some interpretation and operationalization by the researchers to determine how certain components could be manifested into teaching methodologies or the curricular documentation of learning activities.

Another challenge of using Blumberg's (2009) framework to assess the program related to the gradations to determine the rating for certain components. As previously stated, the rubrics make use of three types of gradations to differentiate levels of LC rating: quantitative gradations (15 components), qualitative gradations (9 components), and gradations involving sub criteria (5 components). The interpretation of the latter two types of gradations, as well as the resulting data analysis, was straightforward. Conversely, using the quantitative gradations to guide the data analysis of 15 components proved to be a challenge. Quantitative gradations rely on the frequency of certain teaching methodologies or assessment strategies as described using the following terms: *rarely, infrequently, none, not at all* (used <10% of the time, employs IC approaches); *few, minimally, limited* (used 10-44% of the time, lower-level transitioning);

somewhat, sometimes, partially (used 45-79% of the time, higher-level transitioning); routinely, consistently, throughout, most (used >80% of the time, employs LC approaches, Blumberg, 2009). Compared to the assessment of course syllabi (e.g., Blumberg & Pontiggia, 2011), the parameters and scope of learning and evaluation activities within the program documents analyzed were not as clearly defined or delineated, resulting in a challenge to accurately report the number of total activities from which a frequency of LCT strategies could accurately be determined. As such, ratings for components using quantitative gradations were determined based on the frequency of their appearance in modules rather than activities. Additionally, it is also important to note that all components related to role of the instructor and teaching methodologies were assessed by virtue of analyzing the facilitator's guide (CAC, 2010b) and do not take into account the possibility of the activities not being delivered as outlined – either by implementing a greater or lesser degree of LCT. This finding has surfaced and been discussed within the coach education literature (Hammond & Perry, 2005; Werthner et al., 2012). Overall, we endorse the use of Blumberg's framework for researchers and CDAs interested in conducting a formal and comprehensive assessment of a coach education program. However, given its complexity and the time required to learn and make effective use of the tool, we encourage our audience to also consider Cullen and colleagues' (2012) Rubric for Evaluating Curricular Design and the Assessment of Learner-Centered Practices (ALCP, see McCombs & Miller, 2007) as alternative tools for a quicker and more straightforward assessment of their program's LC status.

Conclusion

There is a consensus between the literatures of higher education (Harris & Cullen, 2010; Weimer, 2013) and coach education (Trudel et al., 2013; Paquette et al., 2014) that shifting paradigms and implementing LC approaches will not be easy for educators, and it will most

certainly be met by some resistance from program stakeholders. This study examined the evolution and LC status of a coach education program both rich in history and that deemed to be LC. In Part 1, the history of the program was shown to include a series of well-intentioned changes to the epistemic foundations and pedagogical approaches; in most cases, these were adaptive responses to a variety of external drivers. In Part 2, the assessment of the CDC program confirmed its claims of being LC. We believe there are a few specific contributions that this study has made to the coach education literature. First, lessons can be learned about how educational innovations and strategies flourish or fall dormant by reflecting on the history of programs and initiatives (Quehl et al., 1999). In the case of golf, lessons were learned about the challenges associated with using and misusing educational approaches. Armed with this understanding, CDAs were able to create a LC program that is considered a gold standard within the Canadian sport system. Second, this study has also contributed to providing an evidencebased approach to assessing the LC status of coach education programs. Moreover, CDAs looking to implement additional LC approaches are encouraged to first assess their program to better understand the areas in which they may begin making incremental changes. Finally, this study has added to the limited research on CDAs and the importance of their biographies and their leadership in designing and implementing programs using LC approaches. Our understanding of LC coach education would benefit from research exploring the delivery of these programs, the perceptions of the facilitators and coaches who participate in these programs, and the specific challenges and forms of resistance faced by CDAs attempting to implement LC approaches. Furthermore, in line with Horgan and Daly (2015), there is simply a need to know more about CDAs: who they are, what are their pathways, and how we might best equip them to develop impactful and sustainable programs that centralize coach learning.

It has been five years since the launch of the CDC program, and based on ongoing informal discussions with the participants, the program has remained heavily focused on furthering its LC approach. For example, in response to coaches' feedback relating to their learning needs and preferences, the program has increased the experiential learning opportunities for coaches on the field of play; a significant portion of the program is now being delivered on the golf course and training grounds. Moreover, additional attention has been directed at enhancing facilitator training as a way to promote the successful delivery of the program's LC design. Lastly, after having been involved with the PGA of Canada for almost 25 years, Gary retired from his position as CEO in July 2017. Given the invaluable leadership and knowledge that he represented in golf coach education, coupled with our understanding of the importance of strong leadership to the success of LC programs (Blumberg, 2009), it will be interesting to see how the program, and its LC status, will continue to evolve under new leadership.

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Doctoral Dissertation: Kyle Paquette

Article 3

Participating in a learner-centered coach education program: Composite vignettes of coaches' and facilitators' experiences

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Abstract

Given the inextricable roles of the coach learner and learning facilitator in learner-centered (LC) coach education, research into their perceptions and experiences in these programs appears to be a priority. As such, building on Paquette and Trudel's (2018) examination of Canada's golf coach education program relative to its alignment with learner-centered approaches, this study looked at the coaches' and facilitators' perspectives of their experiences participating in the abovementioned program that was found to have a LC design. In-depth semi-structured interviews were conducted with 16 participants (6 facilitators and 10 coaches), and data were analyzed using a thematic analysis. The finalized themes from the thematic analysis were used as a narrative skeleton for the creation of the four composite vignettes. The vignettes represented the experiences of four composite characters relative to their learning orientations to learnercentered teaching (LCT) and instructor-centred teaching (ICT): LCT Facilitator, LCT Coach, ICT Facilitator, ICT Coach. As influenced by their cognitive structures, the vignettes depicted the composite coaches' varied engagement and perceptions of the program, as well as the facilitators' varied delivery of the program and adherence to the program's LC design. These diverse experiences are discussed in relation to the impact of LC coach education. Additional implications are presented to help expand our understanding of the interplay between the program design, program delivery, and coach engagement in LCT.

Keywords: Coach development, coach educator, constructivism, narrative, sports coaching

Introduction

Despite coach learning being a contested concept (Mallett, Trudel, Lyle, & Rynne, 2009) with a variety of theoretical perspectives and conceptual lenses offered for its understanding (Jones, 2006; Nelson, Groom, & Potrac, 2016), the sport coaching literature appears to be progressively converging on constructivist approaches (e.g., Paquette & Trudel, 2016; Stodter & Cushion, 2017). The interest and attention placed on a constructivist view of coach learning was arguably influenced in large part by Werthner and Trudel's (2006) seminal article, A New Theoretical Perspective for Understanding How Coaches Learn to Coach. The article, which has since been cited in over 260 publications, presented Moon's (1999, 2004) generic view of learning, comparing two learning metaphors: the "building a brick wall" (grounded in positivism, where "bricks of knowledge" are independent of the learner and learning is an additive process) and the "network" (grounded in constructivism, where learning involves changing conceptions within a vast network of grouped ideas, feelings, and knowledge). This network, referred to by Moon (1999) as the learner's *cognitive structure*, shapes the learner's orientation, approach to learning, and corresponding learning behaviours, and therefore has a distinct and important guidance function on his/her future learning (Moon, 2001). In the past decade, a respectable body of literature has expanded on the ideas presented by Werthner and Trudel (e.g., Rynne & Mallett, 2014; Trudel, Culver, & Werthner, 2013), and the influence of the learner's cognitive structure (or biography using Jarvis' 2006 terminology) has received growing attention and empirical support (e.g., Deek, Werthner, Paquette, & Culver, 2013; Stodter & Cushion, 2017). The acceptance of the centrality of the coach learner has led to the emergence of a learnercentered (LC) focus in the field of coach development and more specifically coach education (Nelson, Cushion, Potrac, & Groom, 2014; Paquette, Hussain, Trudel, & Camiré, 2014).

Numerous researchers have recognized the shortcomings of coach education and proposed a series of remedial recommendations aligned with LC approaches (see Paquette & Trudel, 2016). Moreover, the concept of learner-centeredness has been touched on at times when discussing opportunities to enhance the impact of coach education (e.g., Nelson et al., 2014; Paquette et al., 2014). Given the obvious and shared interests in LC approaches, Paquette and Trudel (2016) looked to education for a theoretically-informed and evidence-based model to support coach development administrators' (CDAs) LC initiatives. The authors presented Weimer's (2002) seminal framework for learner-centered teaching (LCT), as well as that of Blumberg (2009) who developed a validated and highly recognized expansion of Weimer's model. Based on substantial research in education and psychology (e.g., Alexander & Murphy, 1998; Cornelius-White, 2007), the LCT framework includes five dimensions: the function of content, the role of the instructor, the responsibility for learning, the purposes and processes of assessment, and the balance of power (Weimer 2002). Central to the framework is a juxtaposition of how these dimensions are manifested in LCT compared to the traditional and dominant educational style of *instructor-centered teaching* (ICT). Table 1 presents a comparative look at ICT and LCT relative to Weimer's five dimensions.

Using the above framework, Paquette and Trudel (2018) examined Canada's golf coach education program, assessing its LC status. More specifically, the analysis of three program documents outlining the learning activities and evaluation process, found the design to be largely congruent with LC approaches, supporting the program's LC claims. The study also illuminated the vital role of CDAs and their experiences in designing LC programs, as well as the opportunity for CDAs to better understand how and why some educational innovations flourished while others withered by retracing the evolution of their programs. Given the central

Table 1. Comparing instructor-centered teaching and learner-centered teaching relative to Weimer's (2002) five dimensions.

Dimensions	Instructor-Centred Teaching	Learner-Centred Teaching		
Overview	Post-positivismKnowledge transfer, isolationGoal to provide/deliver instruction	ConstructivismKnowledge creation, collaborationGoal to produce learning		
Function of Content	 Content is covered to build knowledge Students are allowed to memorize content No clear organizing scheme 	 Content has multiple functions (e.g., help students know why they need to learn content, use discipline-specific inquiry) Students are encouraged to transform and reflect on content to make meaning of it Organizing schemes support learning 		
Role of the Instructor	 Lecturer and giver of information Use passive teaching methods Use extrinsic motivators (e.g., grades) 	 Facilitator of student learning Use active learning methods Create intrinsically motivating learning environments 		
Responsibility for Learning	 Instructor assumes all responsibility Achievement of course outcomes Instructor assesses student learning, strengths and weaknesses 	 Student mostly assumes responsibility Achievement of learning objectives and self-directed, lifelong learning skills Student routinely self-assesses 		
Purpose and Process of Assessment	 Strong emphasis on evaluation Summative evaluations are prioritized Evaluation occurs following instruction 	 Use assessment strategies that lead to deep learning (e.g., authentic assessment, peer- and self-assessments) Formative assessment drives learning Carefully integrated into learning process 		
Balance of Power	 Instructor possesses all power Instructor determines course content, course policies, and deadlines Student learning is largely influenced by instruction and evaluation process 	 Power is shared with students Students are empowered to express their perspectives and recommendations on content, learning methods, and policies Open-ended assignments and mastery grading allow alternative learning 		

role of the coach as the learner in LC programs, there continues to be a need for research that addresses coaches' perceptions of their experiences in these programs (Leduc, Culver, & Werthner 2012; Paquette & Trudel, 2018), specifically related to the content, delivery, and assessment (Nelson, Cushion, & Potrac, 2013), as well the impact of their capacity and readiness to participate given their cognitive structures (Paquette et al. 2014; Trudel et al., 2013). Moreover, due to the inherent importance placed on the delivery of LCT and the non-negotiable role of the facilitator (Weimer, 2002), understanding who the facilitators are and their perspectives of how they support coaches' learning would appear to be equally valuable to

furthering our grasp of LCT in coach education (e.g., Leduc & Culver, 2016; Werthner, Culver, & Trudel, 2012). As part of a larger research project and building on Paquette and Trudel (2018), the purpose of this article is to examine coaches' and facilitators' perspectives of their experiences participating in a LC program. More specifically, it presents a series of composite vignettes representing how coaches and facilitators experienced the program below.

Golf's CDC Program

In Canada, golf's Coach of Developing Competitor (CDC) program is founded on the development and achievement of a series of coaching outcomes that have been established by the Professional Golfer's Association of Canada (PGA of Canada) in conjunction with Canada's National Coaching Certification Program (NCCP). To achieve these competency-based outcomes, the CDC program employs a six-stage pathway that culminates in certification (see Figure 1). Following the completion of compulsory NCCP multi-sport modules (stage 1), candidates enter the golf-specific program (stage 2-6); this was the focus of Paquette and Trudel's (2018) LC assessment. The golf-specific program (from now on referred to as the program) begins with coaches attending a six-day training camp (stage 2) in which they complete six sport-specific modules that have been adapted by the PGA of Canada for golf coaching; the modules range in duration from 270 to 510 minutes (M = 426.4 minutes). Upon returning home from the training camp, candidates are required to engage in active, applied coaching for a minimum of one season with developing competitors (stage 3), after which time they are eligible to submit a personal coaching portfolio to be evaluated by a trained evaluator (stage 4). If the portfolio is deemed to have not met the minimum standards, the candidate must resubmit his/her portfolio. Once the portfolio is evaluated and meets minimum standards, the candidate and evaluator schedule the formal observation (stage 5), which consists of on-site

Figure 1. Overview of golf's Coach of Developing Competitor program.

Stage 1 NCCP Multisport Modules	Golf-specific Program						
	Stage 2 Training Camp	Stage 3 Applied Coaching	Stage 4 Portfolio Submission	Stage 5 Formal Observation	Stage 6 CDC Certification		
wiodules	Sport-specific Modules: 1. Developing Athletic Abilities 2. Plan a Practice 3. Performance Planning 4. Analyze Technical and Tactical Performance 5. Psychology of Performance 6. Making Ethical Decisions	One season of active, applied coaching with CDC athletes	Requirements: Seasonal plan Weekly plans Training session plans Player progress reports Player feedback forms Emergency action plan Complete skill analysis Design a Sport Program Evaluation Workbook	Part 1: • Training Evaluation • Facilitated Debrief Part 2: • Competition Evaluation • Facilitated Debrief			

training and competition evaluations and debriefs. The formal observation allows the candidates to demonstrate the required criteria and evidence of their achievement of the seven outcomes. Candidates who are successfully evaluated receive CDC certification (stage 6). It is important to note that the program was developed by experienced practitioners in the field and not by researchers.

Method

Participants

This study was performed in collaboration with the PGA of Canada. Approval was granted by the primary researcher's university research ethics board, and informed consent was obtained from all participants. A total of 16 participants were sampled for this study, including six facilitators (5 male, 1 female) and 10 coaches (9 male, 1 female); this sample represents everyone who participated in the launch of the program, except for one coach who elected not to be part of the study. All the participants were interviewed within four months of having completed the training camp (i.e., stage 2). As such, the coaches were in process of completing the program's applied coaching requirements (i.e., stage 3). At the time of the interviews, one of the facilitators held the position of Technical Director/Master Learning Facilitator at the PGA of Canada; three facilitators worked as National Team coaches; and two facilitators were university professors. The facilitators ranged in facilitation experience (0-21 years), as well as experience working in the context of golf (6-29 years). Finally, the coaches represented four provinces (SK, ON, QC, NB) and ranged both in age (28-57 years) and golf coaching experience (5-25 years). All the coaches reported that they started playing golf shortly prior to or during the early stages of adolescence and had had experience playing multiple sports growing up.

Data Collection

A short online survey was initially sent to all coaches to collect demographics and other information related to their cognitive structures (e.g., coaching experience, education and certification, and sources of coaching knowledge). An in-depth semi-structured interview (Brinkmann, 2013) was then conducted with each participant (n = 16 interviews). Due to the geographic dispersion of the participants, six interviews were conducted in-person and 10 interviews were conducted by phone. The interviews ranged in duration from 48-116 minutes (M = 74 minutes). The interview guides were created to explore the participants' perceptions of the program's (a) design and structure, (b) content, (c) delivery, and (d) assessment and evaluation. Some of the questions were specifically designed to explore the participants' perspectives relative to the five dimensions of Weimer's (2002) LCT framework. Additional questions were asked to the facilitators regarding their preparation to facilitate the modules, and to coaches regarding what they learned from the program and its practical impact on their coaching. A collection of 86 photos and 78 video clips (M = 15 seconds; R = 4-95 seconds) of the participants at the training camp (stage 2) were taken and given to the primary researcher by one of the study's participants. The photos and videos were used to help the researchers gain additional context and insight into the program and participants' experiences (Merriam & Tisdell, 2016). The value of capturing the physical space and learning environment as part of LC assessment has been recognized within the LC literature (Blumberg, 2009; Harris & Cullen, 2010).

Data Analysis

Thematic analysis was used to analyse data due to its ability to illuminate people's experiences, views, and perspectives on issues in sport and exercise (Braun, Clarke, & Weate, 2016), coupled with its accepted use by other researchers creating composite vignettes (e.g., Deal & Camiré, 2016; Rathwell, Callary, & Young, 2015; Schinke, Blodgett, McGannon, & Ge,

2016). All audio recorded interviews were transcribed verbatim (282 single-spaced pages) and uploaded into the qualitative analysis software Nvivo 11 to facilitate data management and coding. Prior to commencing coding, the first author read the transcripts multiple times and noted initial points of interest. A comprehensive and inclusive coding process was conducted by means of a line-by-line analysis of the transcripts. The coded data was then organized into candidate or first-order themes based on analytic coherence and patterns of meaning relative to the participants' experience in the program (Braun et al., 2016). At this stage of the analysis, the emergence of unique coach and facilitator profiles relative to their divergent perspectives of the program prompted the interest in a composite vignette approach. Finalized themes were created through the consolidation and refinement of candidate themes with a specific focus on capturing the broader narrative and experiences of the identified profiles (see Table 2 for candidate and finalized themes). Once labelled, the finalized themes served as a guiding framework for the creative development of the composite narratives.

Composite Vignettes

Vignettes have been recognized as a credible qualitative research tool for several decades (Spalding & Phillips, 2007). Three types of vignettes have been identified: (a) *snapshot vignettes* are descriptive accounts of an observed experience; (b) *portrait vignettes* are representations of participants' character and experience; and (c) *composite vignettes* are amalgamations of participants' experiences into a single composite experience (Ely, Vinz, Downing, & Anzul, 1997). All three types of vignettes help researchers to effectively represent the attitudes, beliefs, and perceptions of participants in ways that increase accessibility, interest, and resonance (Hughes & Huby, 2002); they also help to complement other types of qualitative methods (Gray, Royall, & Malson, 2017). It is perhaps for these reasons that vignettes are becoming increasingly

common in qualitative sport research (e.g., Deal & Camiré, 2016; Rathwell et al., 2015; Schinke et al., 2016). In this study, composite vignettes allowed the authors to bring together, through a creative non-fiction writing process, the common features from the participants and to "weave them into a more powerful, all-encompassing shared account" (Schinke et al., 2016, p. 39). As such, the first-person vignettes presented in the findings do not represent the experience of any one participant, and they should not be viewed as an exact patchwork of quotes or direct experiences taken from various participants but as the unique experiences of four composite characters that were created to effectively portray the divergent coach and facilitator profiles that emerged through the thematic analysis process. Guided by Gray et al.'s (2017) steps for using vignettes, and in line with Schinke and colleagues (2016), the finalized themes from the thematic analysis were used as a narrative skeleton for the creation of the composite vignettes (see Table 2). Furthermore, the survey information, photos, and videos also contributed to the contextualization and nuanced experiences described in the final vignettes (Gray et al., 2017). Guided by a relativist approach (Burke, 2016), the first three authors reviewed and helped to revise the vignettes throughout the creative writing process to ensure their coherence, both internally with the themes and externally with the LC literature, and affective and intellectual impact (Burke, 2016). Spalding and Phillips (2007, p. 961) provided the following perspective on composite vignettes that aptly describes the paradox of their secureness and vulnerability:

The endearing feature of vignettes is that they seem to declare themselves as fictions.

Through their constructedness they can signal to the reader that they are a version, an interpretation. They do not seek to portray truth in the sense of verisimilitude to the world and events 'out there' but instead to provide a mediated account of that world and events.

Findings

Table 2. Candidate and finalized themes with respect to the four emergent profiles.

Finalized Themes	Learning Orientation and Role	Biography and View of Learning	Perspectives of Learning Facilitator Role	Perspectives of LC Design	Objectives and Engagement
Candidate Themes	LCT Facilitator	Experienced facilitator; constructivist view of learning	LFs facilitate learning; stimulate reflection and critical thinking; guide meaningful discussion; link to coaches' biographies	Positive; understood and embraced LCT approaches; appreciated program initiative	Support coach learning; predominantly followed Learning Facilitator Guide; deviated to support coaches' interests and learning
	LCT Coach	Learned to coach from various sources; valued coach education; lifelong learner; knowledge is contextual	Appreciated and enjoyed the 'facilitation' style; disliked the 'instruction' style	Positive; recognizes the value of LCT strategies (e.g., guided discovery, reflection, and peer collaboration)	Receive certification; learn; enhance coaching knowledge and practices; extended learning beyond workshop to evening discussions
	ICT Facilitator	Experienced golf instructor; learning is the automatic outcome of effective instruction	LFs deliver the 'right' information; present all content (i.e., get through the module); maintain coaches' attention and interest	Mixed; recognized but did not fully understand the attempt to focus on learning; believed some content and activities lacked relevance; quantity of content created stress	Present the module/cover the content; predominantly followed Learning Facilitator Guide; deviated to state their differing or contradictory perspective or knowledge
	ICT Coach	Learned to coach mostly from experience; devalued coach education; traditional view of learning (acquiring 'right' information)	Preferred 'instruction' style delivered by experts who share their best practices and present all content required for evaluation	Mixed; unnecessary amount of active learning activities, peer collaboration, and self- reflection, too much content to learn in a week	Receive certification; limited their engagement to program requirements

Four composite vignettes are presented below as representations of the experiences of four composite characters as compared by their perspectives of the program, which align closely with the opposing learning orientations of ICT and LCT: (a) LCT Facilitator, (b) LCT Coach, (c) ICT Facilitator, and (d) ICT Coach. Table 2 presents the candidate themes and finalized themes with respect to the four emergent profiles that guide the creation of the vignettes.

LCT Facilitator

When I reflect on what it takes to be a good facilitator, I believe it's all about getting the coaches engaged in meaningful dialogue about what is relevant to them at the time. It's also about igniting their interest in the material to inspire action and future learning that extends beyond the classroom. When I'm facilitating, I make sure to give the coaches the opportunity to help shape the course. I do this by asking them what they want to learn and whether or not they have any specific issues or questions they want to bring to the group. Even though it can be challenging, I try my best to give each coach the chance to talk and share their perspectives. I also remind myself that all coaches arrive with unique experiences, preferences, and understandings that influence how they engage in the activities and therefore what they will learn. I don't necessarily need to know each coach's background and story, but I need to recognize they exist when I'm attempting to create and manage the learning environment. I also believe facilitating learning requires giving up some control and being flexible in your approach. Of course, there's a script that I must honour and follow, but I can still do so in a creative way to ensure the energy and interest in the room stays high.

When I was invited to participate in the CDC training camp, I was asked to facilitate a module both that I helped to create and related to a topic that I have been immersed in for my entire career, so I knew the content extremely well. I have also been an active NCCP facilitator

for years with a passion for adult learning principles, so I had no major concerns about my role. I had the chance to connect with the program coordinator a couple times prior to the training camp. He reviewed the program and module objectives with me, and he gave me a bit of insight into the group of coaches that were going to be in the room. When I arrived to the training camp at the PGA Learning Centre in Florida, I was very impressed by the quality of the facilities. The place was beautiful, and the room that was prepared for us was fantastic. There were four round tables for the coaches to sit together in small groups, and the workbooks and resource material were laid out for them. When the coaches started arriving, I recognized quite of few of them from my previous work in the sport. It was great to reconnect with them. Many coaches came up to me to either introduce themselves or to share their enthusiasm and interest for topics and discussions they were hoping to have. It was great to see their passion, and I appreciated that they came prepared with specific learning objectives in mind.

When it was time to begin, I started by introducing myself and provided a bit of background information about who I am and the type of work I do, as well as an overview of the module and the specific learning objectives. I then asked the coaches to take a moment to reflect on their expectations and objectives related to how they wanted the day to go, for example, content to be covered, types of learning activities, frequency and duration of breaks. As usual, some coaches were much more vocal than others. In the end, I did receive great insight into the group's preferences, from which I believe I was able to effectively shape the day and experience for the coaches. In line with adult education, most of the activities involved a strong element of individual and collective reflection. While the coaches were working and having discussions in small groups, I would walk around, listen carefully to the dialogue, and as required I would provide some guidance by asking some relevant questions to push their thinking and to add

clarity to their conversation. Unless there was a direct question, I would avoid doing the work for them by simply giving them the answer. Instead, I would use questions like, "Are there other ways to look at this situation? What are other options that can be used with the athlete is this particular case? How does this connect to other ideas or content we have discussed today?" Most coaches seemed to respond well to these questions. However, there were others who were not as interested in going through the reflective process and who wanted to me to give them the answers. This is to be expected. Not every coach is used to LC approaches, and therefore we can't expect them to all be comfortable engaging in LC activities. Reflection and critical thinking are skills that need to be practiced, and sharing with others in a public forum requires a tremendous amount of vulnerability. Training camps like this provide opportunities for all coaches to practice these skills with the hope they will transfer into their coaching outside of the program. We have to keep in mind that this program is aimed at developing basic competencies for coaches of developing competitors, not about developing expert coaches. That's why it was so important for me to focus on connecting to each individual in the room with the hopes of igniting an interest in the content and a passion for learning that can support them moving forward. Overall, I really enjoyed my experience at the training camp. The PGA of Canada is doing exciting work in the area of coach education, and I'm happy to be part of it.

LCT Coach

I was looking forward to attending the CDC training camp for some time. The idea of going away to Florida for a week of full immersion learning and coach development was exciting. I'm always on the lookout for new or interesting information that can add value to me, personally or as a coach. I believe there's an opportunity for learning in just about everything I do, whether it's working with athletes, chatting with other coaches, reading articles, or reflecting

on what I can do better. In the past, I have also really enjoyed going to more formal programs, clinics, and conferences. There's obviously a lot of great information that comes directly from the presentations, but I find there's an equal amount of learning that can come from being around other like-minded people, engaging in great discussions, and sharing ideas and best practices. It's interesting to hear different perspectives and opinions. Even though I don't always agree with what some coaches might say or believe, I'm always mindful of being open to listening to them, because often times, whether it's in coaching or life, I don't think there's a definite right or wrong way of doing something. There's not a lot of black and white in my world; I prefer it to be very colourful. I believe this is particularly true in coaching.

At the training camp, it was refreshing to see that certain facilitators shared my perspective on learning and the importance of seeing things in colour rather than black and white. I thought some facilitators were fantastic, whereas others were not so good. The strong facilitators were very experienced and obviously experts in the topic area they were presenting. Not only were they very dynamic and entertaining, they were able to answer any question that was asked in a very relevant and practical way. For these facilitators, the workbook was a guide to support our learning from which they would appropriately deviate to prioritize our interests and questions. I really appreciated this; I felt like the module was being tailored to our group. On the other hand, the less effective facilitators did not do this. There seemed to be more black and white in their worlds. In fact, I wouldn't even call them facilitators. I caught myself thinking, "This guy is like every teacher I had growing up in grade school". The only thing missing was transcribing notes from the chalkboard. There was definitely a lot of information-dumping with these facilitators. Getting through the content in the workbook was clearly top priority for them. We would spend the entire day being asked to jump from Section 3.5 on page 37 of the

workbook to Activity 4.1 on page 91 of the resource package, where we would have 11 minutes to complete the activity before taking four minutes to share our responses with other coaches. I appreciate the process involved with workshops like this, but with these facilitators leading it was very contrived and difficult to stay engaged in the activities or interested in learning. When they did deviate from the workbook, it was either because they didn't agree with the content or they wanted to show us how smart they are or how much they knew about a certain topic. On a couple occasions, the facilitators actually said things like, "I'm going skip this because I completely disagree with this – it's not right; it's not at all useful; they got this all wrong". The coordinator had to jump in a few times to interject and to steer the module back on track. It got a bit tense at times, but it settled quickly and we were able to regain momentum.

With most of the learning activities, there was a heavy focus on self-reflection, small group discussions, sharing with the larger group, and a combination and self-assessments and peer assessments. I'm used to reflecting and sharing ideas with other coaches, so I was quite comfortable in that setting, but it was clear that other coaches weren't as comfortable. They didn't get involved in the dialogue as much even though I'm sure they had a lot to contribute to it. I would often hear comments from this group, like "I didn't pay all this money and come all this way to self-assess or to simply chat with other coaches. I want to be taught by the experts". They didn't seem to connect to the approaches in the training camp, which is ok. I guess not everyone is going to connect to that approach and to those types of activities. Just like not everyone wanted to get together at the end of the day to connect for dinner and drinks, and to chat about what we learned. For me, that was a highlight of the week. Several coaches rented a house together, and some of us would cook and eat dinners together while debriefing the day and

critically discussing what we worked on throughout the day. I think I learned almost as much during the evenings as I did during the days.

At the end of the day, I know it's my responsibility to learn. The facilitators can't do it for me. I have to show up, listen attentively, engage in the activities, and try my best to make sense of how the new information can be integrated into my coaching, or more broadly my understanding of what it means to be an effective coach. Sure, there was a lot of information presented, maybe too much, and the days were long. I also would have liked to spend more time outside. However, you can't do everything and learn everything in a program like that, so I understand that they (PGA of Canada) had to be selective in what they presented. A lot of the information provided confirmation of what I already knew and what I was already doing, and there was a significant amount of new information and resources that I was able to use almost immediately. I was also able to develop some strong relationships with other coaches who I will continue to connect with moving forward. I really enjoyed my time in Florida, and I recommend it to other coaches looking for a great learning experience.

ICT Facilitator

Prior to the CDC training camp in Florida, although I had very little experience facilitating, I had previously instructed a few coaching courses, presented at numerous conferences and events, and I have spent my career instructing golf to players of all ages and skill levels, so it's not like I was unfamiliar with my role. Whether you're instructing or presenting to a group of athletes or coaches, there's really no difference. Teaching is largely about presenting the right information to people in an interesting way, and hopefully what you give to them adds to what they already know. The module they asked me to present was related to a topic that I was familiar with. The major concepts and ideas within the module were largely

part of my day-to-day coaching. However, the module itself had a lot of extra information added that I didn't think was particularly relevant or useful to real-life coaching, but I did my best to respect the program and the process involved. I can't help but think the people who create programs like this make it more complicated than it likely needs to be. Perhaps it's because these people are usually far removed from what's actually happening on the ground. It's no different than when I consider other facilitators who aren't high-performance golf coaches. How can you be great facilitator and connect with coaches when you haven't experienced what you're talking about first hand, or you aren't working with the ideas on a daily basis? I don't think it gives you enough credibility with the coaches in the room. I'm sure many of the coaches would agree.

I wanted to be as prepared as possible, but the truth is there wasn't a lot of preparation required. Although a bit tedious, the facilitator guide appeared to be fairly straightforward and thorough when I went through it originally. During the training camp, however, it became a challenge at times to follow the instructions for some of the activities. Some of them were too mechanical, and it became quite tedious, requiring coaches to spend a specified amount of time on their own before taking another set amount of time to share their ideas with other coaches. There was also a lot of jumping back and forth from the workbook to the resource material. It was all a bit confusing at times for both me and the coaches. That said, I appreciate what the PGA of Canada was attempting to achieve with the program design, and I did my best to cover of all the content and to get through all the activities. For the most part, I think I was successful in doing so. It did however require me to cut a few things out and to shorten some of the time the coaches had to work on certain activities. I know some coaches felt like we were rushing through things too quickly and that they didn't have enough time to think about or to discuss a certain topic. The priority was to get through the module within a certain timeframe, so something had

to give. If I'm being honest, I'm a bit surprise that the PGA of Canada thinks coaches should be presented this much information in a training camp. It's too much. There's no way they were able to retain it all. I believe the program should either consider cutting back on the information or increasing the duration of the modules and the training camp as a whole. I made a point of sharing my feedback with the program coordinator in Florida, which created a bit of tension between the two of us, but they need to know what's not working so they can fix it. Throughout the training camp, I also made a point of sharing my ideas and experiences with the group whenever I was asked and wherever I thought it would add value to the activity or discussion. Sometimes my ideas went against what was in the workbooks, so I had to be careful, but I'm not going to lie to the coaches; they paid a lot of money to be there, so I wanted to make sure they got the right information. There were also a couple times when I took it upon myself to teach the group a few things that weren't in their workbook – information that I believed to be more useful to coaching golf. I really enjoyed taking the time to share these ideas and experiences with the coaches. Although I didn't' get the chance to ask the coaches what they thought of it, I got the impression it was well-received by the group.

I also realize that guided discovery and reflection are important pieces of coaching courses, but they don't always work or connect with everyone. So, I don't see a problem giving coaches the answers when they are looking for them, because for some coaches it's predominantly about getting certified. I'm sure there were coaches who viewed this program as just another hoop they needed to jump through. In fact, I heard quite a few coaches say things, like "I just want to get through this so I can get certified to be able to coach my athletes at the upcoming Canada Games". Despite the program being designed to support learning, these coaches are likely going to return home and rush through the evaluation process with little to no

intention of retaining or implementing any information moving forward. In a sense, I guess there's no problem with that. My responsibilities were to make sure that I presented the module and all the content to the coaches so they could be best positioned to successfully complete the assessment. Looking back, I think I did a pretty good job.

ICT Coach

I have attended a few PGA of Canada courses in the past, and they're basically all the same – you sit in a room for a couple days, and you spend the majority of the time talking to other coaches about content that most of them know less about than you. I have never particularly enjoyed or have benefitted from courses like that. If I'm going to learn something important, it's usually going to come from reading articles or books from well-known experts or from coaching my athletes in training or in competition. That said, a week in Florida did sound like fun when I first heard about the CDC training camp. However, as expected, I didn't get a lot out of it. Overall, I wasn't very impressed with most of the content or the presenters. In fact, there were quite a few things that I didn't like about the design and delivery of the whole thing. First, the cost of the program was too high. I appreciate that there are certain expenses associated with going to Florida and bringing in experts to present the modules, but I don't believe I got near the value for my money. Unfortunately, there's nothing you can do. You need to get through the course to receive your certification if you want to coach at a certain level. The reality is, the training camp could have easily been hosted in Canada. I realize it was during the winter, and in theory being in Florida gave us the opportunity to be outside on grass and to make part of the training camp more experiential, but that wasn't the case. With the exception of one or two activities, we spent the entire week cooped up in a small room for 8-10 hours a day. The days

were also too long and there were not enough breaks. There's only so much you can take in and remember before it becomes an information overload.

Regarding the presenters, it was a bit of a mixed bag. Some of them were pretty good; they did a good job staying on task, going over the activities, and presenting the material.

However, a few presenters didn't cover all the material they were supposed to in the workbooks. Now, I have to go home and take time out of my busy schedule to go through the workbook and resource material on my own and to try best to figure out what's important for my portfolio to get through the evaluation. Isn't that what they were paid to do? Weren't they supposed to make sure that we were presented all the information we needed to get certified? Not only did they not present all the information, it was like they would purposely avoid answering any questions.

There were numerous occasions when I would ask direct questions to the facilitators, and they would reply with another question to try to get me to think more about it. I didn't want to think more; I just wanted the answer so I could be prepared for the evaluation. It came across as being patronizing at times.

I also think there were too many activities that required us to reflect on our opinions and thoughts and to share them with other coaches around the table. Don't get me wrong, I understand why they had us do that; I understand the value of peer learning and self-discovery, I get it, but I didn't travel 2,000 kilometres and pay \$2,000 to spend my time thinking about the same stuff I think about at home for free or to hear what other people think about a certain topic or all of the ways they do things. I want to hear what the expert in front of the room has to say. I want them to tell me the right way of doing things. Nothing against the other coaches in the room, I'm sure they are great coaches with a lot of good ideas, but I think it would have been a much better use of time to have the presenters share more of their knowledge with us. There

were a couple of presenters who spent quite a bit time giving high-quality information and sharing their best practices. I found those moments really beneficial.

I have spent a fair bit of time going over the evaluation process to make sure that I do everything required to pass, and it seems like such a complicated process for no reason. It's so confusing; I don't even know if the PGA of Canada fully understands the process and what they're trying to achieve. They're requiring that we create and submit so many different documents, and we have to submit a video of us coaching an athlete. It seems like a lot of nonsense. If they want to know if I'm a good coach, all they have to do is come watch me in action in a training session with my athletes. The fact that someone can put together a yearly training plan and create a practice plan or an emergency action plan doesn't make them a good coach. It's about coaching, and all of these requirements are taking me away from coaching. Do you know how much time it's going to take me to complete all these tasks and put my evaluation package together? Where do they expect me to find that time? I'm just looking forward to getting through this and getting my certification.

Discussion

This study examined coaches' and facilitators' perspectives of their experiences participating in a LC designed coach education program. Using composite vignettes as a creative representation of the participants' experiences, the findings presented contrasting perspectives and experiences related to the program's content, delivery, and evaluation process as influenced by the composite characters' learning orientations. More specifically, the composite vignettes highlighted the preparation, participation, and overall impressions of coaches and facilitators with cognitive structures that predisposed an alignment with ICT or LCT approaches. There are a couple noteworthy aspects of the creation of the vignettes that merit some discussion to help

situate the readers in their interpretation and understanding of the participants' experiences. First, we recognize that the vignettes heavily align with their respective paradigms; however, their creation was driven by the emergent themes from the data, and not as a purposeful attempt to portray prototypical ICT and LCT perspectives and experiences as done by Roberts and Potrac (2014). Paquette and Trudel (2016, p. 55) aptly noted, "the two opposing paradigms are, in practice, never as neatly parallel as they are presented in summary charts designed according to a visibly distinct and well-established set of parameters" (p. 55) as we have done in Table 1 for the sake of synthesizing an overview of the literature. Blumberg (2009) emphasized that being LC should not be viewed as an all or nothing approach, but rather as a continuum; even the most LC teachers and courses will, at times, make use of strategies that are more congruent with ICT (e.g., lecturing). This notion has been supported by coach education scholars in their examination of LC programs (e.g., Paquette & Trudel, 2016; Werthner et al., 2012). Second, the creation of the vignettes attempted to accurately reflect the emergent themes, their emotional tone, and sometimes subtle nuances within the transcripts of the participants who inspired the composite characters and their experiences. For example, there is a distinct undertone of cynicism and pessimism that pervade both the ICT Coach and ICT Facilitator vignettes. This is not intended to imply that individuals who orient towards ICT are inherently more negative than those who align with LCT, but rather to reflect the general feedback and perceptions of individuals taken part in a program with discordant positions. Moreover, the word "learning" is deliberately mentioned only one time in both the ICT Coach and ICT Facilitator vignettes, compared to the multitude of recurrences of the word and general theme of learning in the LCT Coach and LCT Facilitator vignettes. Attempts were also made to highlight the importance placed on the preparation for the

training camp by the LCT Coach and LCT Facilitator, which according to Moon (2001) is a key element of an individual's readiness for learning.

It is clear the composite characters' cognitive structures played a vital role in shaping their perspectives and participative experiences within the LC program. In fact, the LCT and ICT classifications can be inferred as a regrouping of similar cognitive structures that have created an inclination related to learning perspectives and participation strategies. Moon (2001, p. 66) noted, "what we both choose to pay attention to, what we choose to learn and the meanings that we make of the learning, are modified by our previous knowledge/understanding and feeling" (i.e., cognitive structures). As such, in both coach vignettes, unmistakable preferences were noted regarding delivery style, as well as opinions on the design of the learning activities and overall utility and value of the training camp. Given their shared views of learning, the LCT Coach described a preference for the facilitation style of the LCT Facilitator, as did the ICT Coach for the instruction methods employed by the ICT Facilitator. Conversely, both composite coaches noted a challenge at times to connect with the facilitator of the opposing paradigm. Regarding the program design, while the ICT Coach reported a general dislike for the reliance on self-directed learning strategies, peer collaboration and critical reflection, the LCT Coach appreciated and benefitted from the inherent learning opportunities that came from these LCT approaches (Paquette & Trudel, 2018). Despite a growing research interest in coaches' perceptions and preferences within coach education (e.g., Nash & Sproule, 2012; Nelson et al., 2013), there is little empirical support that has been provided to help explain the differential perceptions and impact on learning according to coaches' cognitive structures (e.g., Deek et al., 2013; Griffiths & Armour, 2013). The findings from this study do however add to and support the work of Collins, Abraham, and Collins' (2012) conceptualization of 'vampires' and 'wolves'.

as well as Griffiths and Armour (2013) who found that the 'learning dispositions' of a group of volunteer coaches, more specifically their intentionality and reciprocity influenced their engagement and experience in coach education activities.

As for the facilitators, their experiences and engagement in the program were also largely influenced by their cognitive structures. The facilitation styles adopted by the two composite facilitators can be viewed as direct manifestations of their cognitive structures (Moon, 2001). Central to the differences in their approaches was a focus on the learner and his/her learning (LCT Facilitator) compared to a focus on the content and its effective delivery (ICT Facilitator). Similar to the learner, Moon (2001, p. 98) explained that the facilitator's "perceptions of instruction and learning will arise from her prior experiences of teaching and learning, her conceptions of learners, of the expectations on her from others – and so on". While the implications of coaches' cognitive structures related to their participation in developmental activities (e.g., coach education) have been discussed in several articles (e.g., Stodter & Cushion, 2017; Trudel et al., 2013), the number of articles looking at the influence of facilitators' cognitive structures on their perceptions and participative experiences is extremely limited (Leduc & Culver, 2016). To our knowledge, only three articles (i.e., Leduc & Culver, 2016; Leduc et al., 2012; Werthner et al., 2012) have attempted to address the facilitator's cognitive structure and its potential influence on the delivery and overall impact of a coach education program. We are surprised by the scarcity of research in this area considering the critiques of programs not being delivered as designed (Hammond & Perry, 2005; Nelson et al., 2013), the importance placed on the delivery of LC programs (Blumberg, 2009; Weimer, 2002), and the concerns of both scholars (Trudel et al., 2013) and practitioners (Werthner et al., 2012) related to the consistent delivery of constructivist-informed programs.

Implications

Coach education has long been criticized for its ineffectiveness at impacting learning and sustained behavioural change in coaches (Trudel, Gilbert, & Werthner, 2010). It has since been recognized that the criticisms were generally drawn from studies that examined programs aligned with positivist assumptions (the core of ICT), and therefore researchers were perhaps hasty in their conclusions about the potential for coach education (Paquette & Trudel, 2016; Piggott, 2015). When programs have made efforts to align with LC approaches, research has noted the positive impact these programs can have on coach learning and coaching behaviours (Deek et al., 2013; Paquette et al., 2014). Given the findings of this study and the broader coach development literature discussed in this article, we believe it would be hasty of us to draw the simple conclusion that programs designed according to LCT approaches are better than IC programs. There is an important interplay between the (a) program design (degree of IC or LC alignment), (b) program delivery (i.e., influence of the facilitator's cognitive structure), and (c) program engagement (i.e., influence of the coach's cognitive structure). What remains uncertain is to what degree each of the above elements contribute to program impact and coach learning, whether or not any of the elements play a greater role than the others, and whether an optimal scenario would be the alignment of all three factors towards a similar learning orientation regardless of the orientation (ICT or LCT). The interplay presented above in relation to the ICT-LCT continuum can perhaps be thought of using the analogy of an audio mixer or soundboard. Each of the three elements can be viewed as audio signals that can and should be appropriately adjusted and monitored to help ensure the quality of the signal as part of a coherent and desired sound or piece of music. In reality, audio mixers are much more complex, often supporting dozens of incoming signals in a variety of ways (e.g., volume and timbre). Coach education is no

different; it too is complex, especially when using a LC perspective (Paquette et al., 2014; Trudel et al., 2013). For example, the program in this study involved six stages each with its own design features (i.e., six incoming signals), six facilitators who were each tasked with delivering a module (i.e., six additional incoming signals), and 11 coaches who participated in the program (i.e., 11 more incoming signals). In order to appropriately manage the program, the CDA in this case would need to be mindful of monitoring and continually adjusting the many signals to ensure the highest quality of sound. In fact, one of the facilitators (who helped to inspire the LCT Facilitator) also worked as the primary CDA for the PGA of Canada and was responsible for coordinating the training camp. It was acknowledged by many participants in their interviews that he played an integral role in helping to "adjust" and "fine tune" the learning environment throughout the week so that the program could be delivered as designed. We encourage CDAs to consult some of the valuable considerations and recommendations for leading a LC program presented in the literature, specifically the constructivist-informed work of Trudel and colleagues, such as Paquette et al. (2014), Paquette and Trudel (2016), Trudel et al. (2013), Trudel and Gilbert (2013), and Werthner et al. (2012).

Conclusion

Building on Paquette and Trudel (2018), this study examined coaches' and facilitators' perceptions of their experiences participating in a LC coach education program using composite vignettes. This study contributes to our expanded understanding of LC coach education, as well as the benefits of using composite vignettes as a qualitative method to effectively illuminate the participants' experiences. First, the complexity of using constructivist perspectives to inform coach education has been previously discussed by scholars (Paquette et al., 2014; Trudel et al., 2013). However, this study further unpacks the scope of influence of coach education

participants' cognitive structures by presenting the differences in facilitation styles and perceived effectiveness of facilitators, according to varying elements of their cognitive structures. The dynamic and complex interplay between the program design, delivery, and coach engagement and their respective alignment with LCT (i.e., the audio mixer analogy) is a novel concept that merits additional research if we are to address the questions presented in the discussion and to better support the practical efforts of CDAs. Moreover, the use of innovative and non-traditional qualitative methods is becoming more commonplace in the coach development literature (e.g., Cassidy, Kidman, & Dubfield, 2015; Duarte & Culver, 2014) thanks in large part to the proliferation of qualitative research in sport and exercise (Smith & Sparkes, 2016). We see great value in using composite vignettes both as a tool for data collection and representation that can enhance the interest and accessibility for readers. The use of vignettes in this study provided us with a creative challenge that we believe has contributed to an article that is better positioned to stimulate debate, intrigue, and critical reflection on the topic of LC coach education. Finally, we hope the vignettes can act as a lens through which CDAs may better perceive the complex learners they are attempting to support.

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Additional Findings

Supplemental to the three articles presented above, there are additional findings from the project that are included in the following section related to the complete assessment of the CDC program using Blumberg's (2009) LCT framework (expanding on Article 2), as well as the CDAs' perspectives of their experiences participating in the conceptualization and design of the program (expanding on Article 3).

Program Assessment

A complete assessment of the CDC program relative to the degree of implementation of all 29 components of Blumberg's (2009) LCT framework is presented in Article 2 (see Table 3). To help re-situate the reader, the result of the assessment revealed that one component was rated as "Employ instructor-centered approaches" (3.6 Information literacy skills), four components as "Lower level of transitioning", 10 components as "Higher level of transitioning", and 14 components as "Employs LC approaches". In that article, detailed findings are also presented in relation to the six components identified by Blumberg as being relevant when designing and delivering courses for non-traditional, older students, or professional-level students. In this section, Blumberg's five detailed rubrics are presented with the rating for each component identified to provide additional clarity on the descriptions of the four levels of rating for each of the 29 components, in particular the ratings selected as part of the assessment of the program. Furthermore, additional findings are presented below to support the ratings and overall assessment for each of the five dimensions of LCT.

The function of content. The ratings in this dimension ranged from higher level of transitioning (1.1, 1.2, 1.3) to employs LC approaches (1.4), which demonstrates a high degree of LCT with respect to the function of content. The analysis of documents revealed that the

design of many learning activities used content both as an end and a means to other ends by incorporating a strong reflective component (Blumberg, 2009). A predominant focus of many activities was context relevant content. As such, a series of "Scenarios to Analyze" allowed coaches to use discipline-specific inquiry and learning methodologies to solve real-world problems. The following is an example scenario from the Developing Athletic Abilities module (CAC, 2010a, p. 33-34):

Cyndie is an 18-year old female golfer competing at the provincial level. She played golf recreationally for two seasons when she was 14 and 15, and began competing seriously two years ago. Before golf, Cyndie did a few years of recreational gymnastics.... During a camp with the Development Team held 6 weeks before the first tournament of the season, she completed the battery of tests used by the National Golf Team.... Analyze the golfer's results for each test, and fill-out the table below.... Indicate what the fitness training priorities should be for this player for the next 6 weeks, and why.

These activities also included a variety of collaborative elements, such as group discussions and response sharing, and they concluded with an "Individual Reflection" to promote a deeper engagement with the content and additional learning. For example: "Discuss your answers with another coach. Challenge each other to explain the reasoning behind your answers" (CAC, 2010a, p. 182). Many activities were also designed to include aspects of the coaches' practices to reflect on in relation to the content being presented and its potential impact on future practices. For example: "Identify a scenario in your own coaching where you have used data analysis to create a positive change in athlete performance" (pre-activity reflection) and "Identify below how you would use data analysis in your future coaching and what types of interventions you would use to create a positive change in athlete performance" (post-activity reflection)" (CAC,

2010a, p. 78-80). With regards to organizing themes, a gear diagram illustrating the interconnectivity and relationships between the various coaching elements (e.g., skill, psychology, physiology, strategies) is presented at the beginning of the modules to help organize and situate the module content relative to its role in coaching and influence of the content from the other modules. Moreover, each module was organized using a similar format, was introduced using a table of contents, and concluded with a series of self-assessment and future planning activities to promote future learning following the module. See Table 12 for the function of content rubric of LCT (Blumberg, 2009) and the shaded sections highlighting the ratings and descriptions for each of the dimension's four components.

The role of the instructor. The ratings in this dimension ranged from higher level of transitioning (2.4, 2.5, 2.6) to employs LC approaches (2.1, 2.2, 2.3), which demonstrates a high degree of LCT in relation to the role of the instructor. First, the program exclusively used the term 'learning facilitator' to describe the individuals responsible for delivering the modules. Moreover, in line with LCT approaches, the modules were designed to create a learning environment that accommodated different learning styles and the use of various teaching and learning methods to connect with a range of coach learning preferences. These methods included individual workbook activities, group activities and discussions, case scenarios, practical training and role playing activities, the use of video analysis and PowerPoint presentations, individual reflections, and a series of peer and self-assessments. Some activities incorporated multiple strategies listed above. For example, the following excerpt is part of an activity from the Analyzing Technical and Tactical Performance module (CAC, 2010a, p. 86):

Your Facilitator will ask your group to pair up with another group of 3 coaches. While one group conducts their practice session with the athletes, the second group acts as

Table 12. The function of content rubric of learner-centered teaching (Blumberg, 2009).

		Level of transitioning			
Co	omponents	Employs IC approaches	Lower level of transitioning	Higher level of transitioning	Employs LC approaches
1.1	Varied uses of content; in addition to building a knowledge base, instructor uses content to help students (1) know why they need to learn content, (2) acquire discipline-specific learning methodologies, (3) use inquiry or ways of thinking, and (4) learn to solve problem	Instructor uses content that helps students build a knowledge base; instructor and content help students solve problems <i>or</i> instructor uses any one of the four sub criteria for uses of content	In addition to building a knowledge base, instructor uses content to help students recognize why they need to learn the content, apply content to solve problems with instructor's assistance <i>or</i> instructor uses any two of the four sub criteria for uses of content	In addition to building a knowledge base, instructor uses content to help students identify why they need to learn content, use discipline-specific learning methodologies, use inquiry or ways of thinking in the discipline and/or learn to apply content to real-world problems with instructor's assistance or any three of the four sub criteria for uses of content	In addition to building a knowledge base, instructor uses all four sub criteria to help students evaluate why they need to learn content, acquire discipline-specific learning methodologies, practice using inquiry or ways of thinking in the discipline, and learn to solve real-world problems
1.2	Level to which the students engage in content	Instructor allows students to memorize content	Instructor provides content so students can learn material as it is given to them without transforming or reflecting on it	Instructor assists students to transform and reflect on <i>some</i> of the content to make their own meaning out of <i>some</i> of it	Instructor encourages students to transform and reflect on <i>most</i> of the content to make their own meaning out of it
1.3	Use of organizing schemes	Students learn without a clearly defined organizing scheme provided by instructor	Instructor provides <i>limited</i> organizing assistance	Instructor provides <i>some</i> organizing schemes to help students learn content	Instructor provides and uses organizing schemes to help students learn content
1.4	Use of content to facilitate future learning	Instructor provides content so students can learn it in isolation, without providing opportunities for them to apply knowledge to new content	Instructor provides students with limited opportunities to apply knowledge to new content	Instructor frames content so students can see how it can be applied in the future	Instructor frames and organizes content so students can learn additional content that is not taught

"assessors". One member of the assessor group will observe the coaches in action and will complete the...worksheet (p. W4.31).... A second member...will observe the athletes, monitoring their performance and their reactions to the activities presented. The third member...will video the practice session for use during the debrief.

The activity was proceeded by a reversal of roles and concluded with the individual completion of a "Debriefing Worksheet". The evaluation process was also designed in a way that accommodated different learning styles in its three-phase approach: pre-observation/portfolio evaluation, formal observation, and debrief and action (CAC, 2010c).

Built into many activities were "three-way interactions", a term used by (Blumberg, 2009) to describe the LC interactions among coaches, the facilitator, and the content. The use of three-way interactions enhances social interactions in the classroom, as well as active engagement with the content; it also opposes the traditional IC approach of using a "one-way interaction" where the instructor delivers content using a passive teaching method (Blumberg, 2009). Finally, given the well-developed competency-based resources and templates provided by the CAC, the program documents presented a high degree of alignment between the learning objectives, often presented as SMART goals at the beginning of each module and revisited at the end of the modules (rarely referred to throughout the module), teaching and learning methods, and assessment methods that were clearly and repeatedly outlined in the documents. Table 13 presents a summary of outcomes, performance criteria, and method of evaluation found in the CDC Evaluator's Guide (CAC, 2010c, p. 6-7). The majority of evaluation methods are linked to activities within the corresponding modules that provide coaches the opportunity to familiarize themselves with the methods, while learning the content and rehearsing the intended outcome. See Table 14 for the role of the instructor rubric of LCT (Blumberg, 2009) and the shaded

Table 13: Summary of outcomes, performance criteria, and method of evaluation (CAC, 2010c).

Outcome	Performance Criteria	Method of Evaluation
Making Ethical Decisions	Candidates will apply an ethical decision making process to an ethical issues that has multiple (>3) decisions including several (>6) consequences and stakeholders (>3).	The matrix outlining evidences for this outcome can be found in Appendix 3. Complete the on-line, NCCP evaluation for the Competition-Development context.
Plan a Practice	Adapt pre-designed activities and/or design activities appropriate for the age and skill/performance level of their developing competitors. Design training session plans that have clear objectives, appropriate organization, are safe, use time and space appropriately, sequence activities, identify key performance factors, and have an emergency action plan.	Three written "Training Session Plans" (early, mid and late season) are to be evaluated. At least one of the sessions will be an on-course session. One of the training session plans in the portfolio must match the session plan requested by the [PGA of Canada] and is to be delivered during an on-site evaluation session.
Provide Support to Players in Training	Develop a yearly training plan that integrates training priorities from the LTPD including fitness for golf. Deliver a planned training session that is safe, is appropriately structured and organized and demonstrate ability to adjust the plan based on the response of the players to the training tasks.	Submit a 12 month training plan as part of their portfolio. Formal on-site evaluation during the delivery of a training session. The on-site evaluation will include a review of the emergency action plan for the training site.
Analyze Performance	Demonstrate the ability to detect and correct technical performance errors. Demonstrate the ability and correct tactical performance errors.	Candidate will be asked to submit a video showing them analyzing their player's performance at the beginning and end of a season. Formal on-site evaluations of technical and tactical corrections. Submission of skill analysis forms.
Design a Competitive Golf Program	Outline a program structure based on available training and competition opportunities. Identify program measures to promote player development consistent with Golf's LTPD model and include a tapering and peaking program in preparation for important competitions. Develop training sessions that integrate training priorities.	Submission to include a year's training plan as well as 3 training session plans that indicate the candidate is using the information in the yearly plan for early, mid and late season training. Submission of 3 detailed weekly plans. One for preparatory phase, one for middle of competitive phases and one for end of competitive phase.
Manage a Competitive Golf Program	Manages a plan for a group of competitive golfers that includes program goals, logistics, communication strategies, links to Golf's LTPD model, appropriate measures to promote drug free sport, strategies to resolve conflicts, and use of additional expertise to assist in program or player development. Reports regularly on the progress of players.	Submits a written review summarizing the challenges and reflecting on the implementation of a program plan for a group of competitive golfers. Submits 3 sample player progress reports and 3 player feedback forms as part of their portfolio. The Evaluator will complete a checklist of "management indicators" as part of the onsite observation.
Support the Competitive Experience	Is able to identify competition-specific factors that impact performance. Has developed pre-, during, and post-competition routines that are designed to enhance performance during competitions.	Submits a list of competition specific factors that influence performance as ins able to discuss the factors with and evaluator. Describes in writing their pre-, during, and post-competition routines and demonstrates their use during the on-site evaluation.

Table 14. The role of the instructor rubric of learner-centered teaching (Blumberg, 2009).

		Level			
Components		Employs IC approaches	Lower level of transitioning	Higher level of transitioning	Employs LC approaches
2.1	Creation of an environment for learning through organization and use of material that accommodates different learning styles	Instructor uses the same approach or approaches throughout the course even if the students are not learning	Instructor does not focus on creating a learning environment, but students do learn	Instructor creates a learning environment through use of one out of the two sub criteria	Instructor creates a learning environment by using both sub criteria: through organization and use of material that accommodates different learning styles
2.2	Alignment of the course components – objectives, teaching or learning methods, and assessment methods – for consistency	Instructor does <i>not</i> align objectives, teaching or learning methods, and assessment methods	Instructor <i>minimally</i> aligns objectives, teaching or learning methods, and assessment methods <i>or</i> aligns two out of three course components	Instructor <i>somewhat</i> aligns objectives, teaching or learning methods, and assessment methods	Instructor explicitly, coherently, and consistently aligns objectives, teaching or learning methods, and assessment methods
2.3	Teaching or learning methods appropriate for student learning goals	Instructor does <i>not</i> have specified learning goals <i>or</i> uses teaching and learning methods that conflict with student learning goals	Instructor uses teaching and learning methods without regard for student learning goals <i>and/or</i> does not use active learning activities	Instructor uses <i>some</i> teaching or learning methods that are appropriate for student learning goals	Instructor intentionally uses a <i>various</i> teaching or learning methods that are appropriate for student learning goals
2.4	Activities involving student, instructor, content interactions	Instructor uses no activities in which students actively interact with material, or instructor, or each other	Instructor uses <i>few</i> activities in which students actively interact with material, or instructor, or each other	Instructor uses <i>some</i> activities in which students actively interact with material, or instructor, or each other <i>or</i> there are some three-way interactions	Instructor <i>routinely</i> uses activities in which students actively interact with material, and instructor, and each other
2.5	Articulation of SMART objectives: specific, measurable, attainable, relevant, and time-oriented	Instructor articulates vague course objectives <i>and/or</i> does not articulate objectives in syllabus	Instructor articulates in syllabus course objectives that do not have all five attributes of SMART objectives	Instructor articulates SMART objectives in syllabus but does not refer to them throughout the course	Instructor articulates SMART objectives in syllabus and regularly refers to them throughout the course
2.6	Motivation of students to learn (intrinsic drive to learn versus extrinsic reasons to earn grades)	Instructor extensively uses extrinsic motivators to get students to earn grades	Instructor provides <i>limited</i> opportunities for students to become intrinsically motivated to learn <i>and</i> uses extrinsic motivators to get students to earn grades	Instructor provides <i>some</i> opportunities for students to become intrinsically motivated to learn	Instructor inspires and encourages students to become intrinsically motivated to learn

sections highlighting the ratings and descriptions for each of the dimension's six components.

The responsibility for learning. The ratings in this dimension ranged from employs IC approaches (3.6) to employs LC approaches (3.3, 3.4, 3.5), which demonstrates a moderate to high degree of LCT in relation to the responsibility for learning. Detailed findings are presented for all but one component of this dimension in Article 2. The component in question is 'Information literacy skills' (3.6), and it was the only component among all 29 that was rated as employs IC approaches. Blumberg recognized that some components may not be relevant to certain courses or programs depending on the discipline or duration, and rather than rejecting them from the analysis to carefully reflect on the rationale for their exclusion or omission. In line with the Association of College and Research Libraries (2004), Blumberg (2009) presents five information literacy skills: (a) frame researchable questions, (b) access sources, (c) evaluate sources, (d) evaluate content contained in these sources, and (e) use information legally and ethically. Given that the program is designed to develop basic competencies, it came as no surprise that the program documents did not make any reference to these sophisticated, future learning skills or their development. See Table 15 for the responsibility for learning rubric of LCT (Blumberg, 2009) and the shaded sections highlighting the ratings and descriptions for each of the dimension's six components.

The purposes and processes of assessment. The ratings in this dimension ranged from lower level of transitioning (4.6) to employs LC approaches (4.1, 4.5, 4.7), which demonstrates a high degree of LCT in relation to the purposes and processes of assessment. According to Blumberg (2009, p. 157), "many of the [IC] approaches described in this dimension imply *evaluation* [emphasis added] or making judgment without providing feedback. In contrast, assessment [emphasis added] relies on using evidence to guide decisions, and it is...more

Table 15. The responsibility for learning of learner-centered teaching (Blumberg, 2009).

			Level		
Components		Employs IC approaches	Lower level of transitioning	Higher level of transitioning	Employs LC approaches
3.1	Responsibility for learning	Instructor assumes all responsibility for student learning: Provides content to memorize, does not require students to create their own meaning of content, and tells students exactly what will be on the examinations	Instructor assumes <i>most</i> responsibility for student learning: Provides detailed notes of content to be learned and reviews content to be examined while helping students learn the material and meet objectives	Instructor provides <i>some</i> opportunities for students to assume responsibility for their own learning	Instructor provides increasing opportunities for students to assume responsibility for their own learning, leading to achievement of stated learning objectives
3.2	Learning to learn skills for the present and the future including: time manage- ment, self-monitoring, goal setting, independent reading, and how to conduct research	Instructor allows students to meet course objectives without developing further learning skills	Instructor directs students to develop a <i>few</i> skills for further learning	Instructor directs students to develop <i>some</i> skills for further learning	Instructor directs students to develop <i>various and</i> appropriate skills for further learning
3.3	Self-directed, lifelong learning skills: determining a personal need to know, knowing who to ask and where to seek information, and development of self-awareness of students' learning abilities	Instructor does not consider self-directed learning skills relevant <i>or</i> self-awareness of student's learning abilities relevant	Instructor does not assist students to become self-directed, lifelong learners <i>or</i> aware of their own learning and abilities to learn	Instructor assists students to become self-directed, lifelong learners in a few areas <i>and</i> somewhat aware of their own learning and abilities to learn	Instructor facilitates students to become proficient, self-directed, lifelong learners <i>and</i> fully aware of their own learning and abilities to learn
3.4	Students' self-assessment of their learning	Instructor believes that instructors alone assess student learning <i>or</i> does not consider self-assessment of learning relevant	Instructor does not direct students to assess their own learning	Instructor sometimes provides direction to help students assess their own learning	Instructor motivates students to routinely and appropriately assess their own learning
3.5	Students' self-assessment of their strengths and weaknesses	Instructor believes that only instructors should assess students' strengths and weaknesses	Instructor does not direct students to practice self-assessments	Instructor helps students practice some self-assessment skills	Instructor encourages students to become proficient at self-assessment
3.6	Information literacy skills: framing questions, accessing sources, evaluating sources, evaluating content, using information legally	Instructor does not help students acquire any information literacy skills	Instructor helps students acquire two of the five information literacy skills	Instructor helps students acquire four of the five information literacy skills	Instructor facilitates students become proficient in all five information literacy skills

concerned with learning". The program documents make reference to both 'assessment' and 'evaluation', and do so in a way that indicates a similar understanding in the difference between the two concepts similarly to Blumberg. In fact, within the Evaluator's Guide (CAC, 2010c), an overview of conceptual differences is outlined according to their distinct functions and corresponding stakeholder roles and qualities (i.e., assessor and evaluator, see Table 16). In accordance with the delineation of terms presented in Table 16, the analysis of the documents reveals the term 'assessment' is reserved almost exclusively for the training portion of the program (i.e., stages 1-3), whereas the term 'evaluation' is used to describe the process that takes place during the evaluation process (i.e., stages 4 and 5). Although it is not explicitly stated, it would appear that given the program design, coupled with the description provided for the role of the assessor, that facilitators are also assessors. This would be congruent with Blumberg's (2009) framework and more broadly the LC literature (Weimer, 2013).

In any case, the consistent integration of various assessment strategies (e.g., peer and self-assessment, facilitator feedback, and standardized data) to promote learning was a key feature of the design of each module and for most learning activities throughout the modules. For example, the following excerpt is part of an activity from the Plan a Practice module (CAC, 2010a, p. 173-174):

Review the information in the Reference Material (pp. R6.1 - R6.4) on sequencing exercises in a practice. How do your answers compare to the guidelines in the Reference Material?... What is your major learning from the activities on exercise sequence?... Share your answers with other coaches, and adjust your answers as appropriate. Discuss your answers with the Learning Facilitator and adjust your answers as needed.

Moreover, detailed self-assessment activities were used at the conclusion of most modules to encourage coaches "to reflect on current coaching practices...[related to] evidences that an

Table 16. Coach assessment and evaluation: What's the difference (adapted from CAC, 2010c).

Assessment	Evaluation		
What is it?	What is it?		
 Assessment is a step in the learning process whereby the learner is informed of his or her performance or progress towards the achievement of a given outcome Assessment is a formative process Assessment provides information and feedback on coaching performance at a given time – it is cross-sectional and context-specific Assessment may be objective or subjective 	 Evaluation is the process whereby a judgment is made on the ability of the candidate to demonstrate one or more outcomes to an established standard Evaluation is a summative process Evaluation is cumulative and may require several assessment methods Evaluation is objective and provides as benchmark 		
An Assessor:	An Evaluator:		
 Provides feedback and information to candidates based on outcomes and criteria Uses valid and objective assessment tools to gather information on coaching performance for a given outcome Makes recommendations to improve candidate performance 	 Passes a judgment on coaching competency in a specific context based on outcomes and criteria that have a defined standard Uses valid and objective evaluation tools that define performance for a given outcome/criterion If external, has been identified the [PGA of Canada] to conduct an evaluation of a candidate and has not been involved in training the candidate Grants certification 		
What are the qualities of an Assessor: An Assessor:	What are the qualities of an Evaluator: An Evaluator:		
 May have context-specific knowledge/experience Has some knowledge of the outcome being assessed May be a player, parent, administrator, or coach May also function as a coach mentor Is identified by the Provincial Golf Associations according to NCCP and [PGA of Canada] standards 	 Is considered an "expert" in the context and in golf Is well versed in the NCCP evaluation standards and process Is a leader in golf's coaching community Is free of bias and subjectivity Is selected and trained by the [PGA of Canada] according to NCCP and [PGA of Canada] standards 		

Evaluator will be looking for during assignments and observations.... The self-assessment form will help you identify areas of strength and areas for improvement" (CAC, 2010a, p. 54). Self-assessment is also part of the evaluation process, whereby coaches must complete and submit a "Candidate Self-Assessment: Coaching Behaviours Profile" (CAC, 2010c, p. 47) prior to the on-site evaluation (i.e., stage 5 formal observation). Finally, there is some information related to the provision of evaluator feedback as part of the facilitated debriefs following the on-site evaluations. Although it is not explicitly stated, it is assumed the feedback would be provided immediately

following both the training and competition evaluations. There is no information that specifically relates to the timeframe for feedback of the other evaluation activities (e.g., portfolio). See Table 17 for the purposes and processes of assessment rubric of LCT (Blumberg, 2009) and the shaded sections highlighting the ratings and descriptions for each of the dimension's seven components.

The balance of power. The ratings in this dimension ranged from lower level of transitioning (5.4, 5.5) to employs LC approaches (5.1, 5.2, 5.3, 5.6), which demonstrates a high degree of LCT in relation to the balance of power. Following an initial review of the documents, it appeared the highly-structured design of the modules, seemingly inflexible evaluation process, and the pre-established content would be have favoured IC approaches. However, following the systematic analysis of the documents, the program subtly but effectively integrates many LC approaches. For instance, there is considerable attention placed on the use of content to promote future learning (component 1.4) and the development of self-directed, lifelong learning skills (component 3.3). As such, despite the content of the program being largely pre-determined (i.e., created by the CDAs), coaches are encouraged to explore additional content following the completion of the modules to expand their knowledge. The collaborative and socially interactive design of most activities also encourages coaches to regularly share their perspectives with the peers, the group, and the facilitator. At the beginning of the modules, coaches are informed that "it is important that [they] share their experiences and perspectives" (CAC, 2010a, p. 4), and throughout the Facilitator's Guide, the facilitators are instructed to "validate coaches' perspectives" and responses (CAC, 2010b, p. 45), "provide support to different opinions" (CAC, 2010b, p. 71), and to avoid making coaches "feel embarrassed or intimidated" (CAC, 2010b, p. 21).

In line with the CAC's competency-based model requiring coaches to demonstrate a minimum standard for the performance criteria for each outcome, the program's evaluation process

Table 17. The purposes and processes of assessment rubric of learner-centered teaching (Blumberg, 2009).

			Level		
Components		Employs IC approaches	Lower level of transitioning	Higher level of transitioning	Employs LC approaches
4.1	Assessment within the learning environment	Instructor sees assessment as less important than teaching <i>and</i> does not integrate assessment within the learning process	Instructor <i>minimally</i> integrates assessment within the learning process	Instructor <i>somewhat</i> integrates assessment within the learning process	Instructor <i>mostly</i> integrates assessment within the learning process
4.2	Formative assessment (giving feedback to foster improvement)	Instructor uses only summative assessment <i>and</i> provides students with no constructive feedback	Instructor uses <i>little</i> formative assessment <i>and/or</i> provides students with limited constructive feedback	Instructor gives students <i>some</i> formative assessment <i>and</i> constructive feedback following assessments	Consistently throughout the learning process, instructor integrates formative assessment and constructive feedback
4.3	Peer and self-assessment	Instructor does not consider peer and self-assessments relevant <i>and/or</i> factor these assessments into final grade	Instructor <i>rarely</i> requires students to use peer and self-assessments	Instructor requires students to use <i>some</i> peer and self-assessments	Instructor <i>routinely</i> encourages students to use peer and self-assessments
4.4	Demonstration of mastery and ability to learn from mistakes	Instructor does not provide any opportunities for students to demonstrate that they have learned from mistakes and then show mastery	Instructor provides a few opportunities for students to demonstrate that they have learned from mistakes	Instructor provides <i>some</i> opportunities for students to demonstrate mastery after making mistakes	Instructor offers students <i>many</i> opportunities to learn from their mistakes and then demonstrate mastery
4.5	Justification of the accuracy of answers	Instructor determines accuracy of answers <i>and</i> does not allow students to ask why they got answers wrong	Instructor allows students to ask why they got answers wrong	Instructor allows students to justify their answers when they do not agree with those of instructor	Instructor encourages students to justify their answers when they do not agree with those of instructor
4.6	Timeframe for feedback	Instructor does not provide a timeframe for feedback <i>or</i> does not return tests or grades assignments	Instructor provides a timeframe for feedback without seeking students' input <i>and</i> usually follows the timeframe	Instructor provides a timeframe for feedback with students' input <i>and</i> usually follows the timeframe	Instructor and students mutually agree on a timeframe for feedback <i>and</i> always follow the timeframe
4.7	Authentic assessment (what practitioners and professionals do)	Instructor rarely or never uses authentic assessment	Instructor uses a <i>few</i> assessments that have authentic elements	Instructor uses <i>some</i> authentic assessments or assessments that have authentic elements	Instructor uses authentic assessment throughout the course

embraces the LC approach of using mastery grading. According to Blumberg (2009, p. 192), in courses or programs that make use of mastery grading:

There is a minimum acceptable level that the students need to reach to pass the course. Students either receive full credit for attaining the acceptable level or performance or do not receive any credit for their attempt because it was below the acceptable level.... Many instructors allow multiple attempts to reach this acceptable level.

Throughout the evaluation process, coaches are informed if they have not met the standard on a given performance criteria. In these situations, coaches are provided detailed accounts of what is missing and recommendations by the evaluators to support their additional learning and development. Furthermore, evaluators are trained to ensure that coaches "clearly understand where standards were not met and more practice/training is needed...and [coaches] must leave the evaluation with an action plan designed to assist them with training and/or future endeavours" (CAC, 2010c, p. 2). Although the process of a "re-evaluation" in the situation where coaches fail to meet standards is not explicitly outlined in the documents, it is referred to on a few occasions implying that is a recommended option for coaches. Finally, despite none of the learning activities being designed as "open-ended assignments", the evaluation process did provide coaches with some flexibility in terms of what they included in their portfolios, how the portfolios were presented, and how the coaches provided evidence of performance criteria during the on-site evaluations (CAC, 2010c). Moreover, although the program policies, teaching and learning methods, and assessment activities and deadlines were largely determined by the CDAs, coaches were responsible for completing their portfolio and initiating the evaluation process at their convenience (CAC, 2010c). See Table 18 for the balance of power rubric of LCT (Blumberg, 2009) and the shaded sections highlighting the ratings and descriptions for each of the dimension's six components.

Table 18. The balance of power rubric of learner-centered teaching (Blumberg, 2009).

	Level of transitioning				
Components		Employs IC approaches	Lower level of transitioning	Higher level of transitioning	Employs LC approaches
5.1	Determination of course content	Instructor entirely determines course content <i>and</i> does not seek feedback on the content	Instructor determines course content <i>and</i> allows students to offer insights or feedback on content after course is over	Instructor determines course content <i>and</i> allows students to choose some assignment topics	Instructor largely determines course content <i>and</i> encourages students to explore additional content independently
5.2	Expression of alternative perspectives	Instructor expresses all of the perspectives	Instructor infrequently allows students to express alternative perspectives, even when appropriate	Instructor allows students to express alternative perspectives when appropriate	Instructor encourages students to express alternative perspectives when appropriate
5.3	Determination of how students earn grades	All performance and assignments count toward students' grades	Instructor allows students to drop one assessment but provides no alternative opportunities for them to demonstrate mastery	Instructor allows students to resubmit assignments or other assessments for re-grading	Instructor uses either mastery <i>or</i> contract grading to determine what grade students will earn
5.4	Use of open-ended assignments	Even when appropriate, instructor does <i>not</i> use assignments that are open-ended or allow alternative paths <i>and/or</i> test questions that allow for more than one right answer	When appropriate, instructor uses <i>a few</i> assignments that are open-ended or allow alternative paths <i>and/or</i> test questions that allow for more than one right answer	When appropriate, instructor sometimes uses assignments that are open-ended or allow alternative paths and/or test questions that allow for more than one right answer	If appropriate, instructor routinely uses assignments that are open-ended or allow alternative paths and/or test questions that allow for more than one right answer
5.5	Flexibility of course policies, assessment methods, learning methods, and deadlines	Instructor mandates all policies and deadlines <i>or</i> does not adhere to policies	Instructor is flexible on a few course policies, assessment methods, learning methods, deadlines, and infrequently adheres to these flexible decisions	Instructor is flexible on <i>some</i> course policies, assessment methods, learning methods, deadlines, <i>and</i> somewhat adheres to what they agreed upon	Instructor is flexible on <i>most</i> course policies, assessment methods, learning methods, deadlines, <i>and</i> always adheres to what instructor has agreed to with the students
5.6	Opportunities to learn	Instructor mandates that students attend all classes even when they are not expected to be active learners	Instructor provides consequences for not attending classes <i>and/or</i> not participating in active learning experiences	Instructor provides attendance options for some classes so students may miss a few classes without penalty <i>and/or</i> participation options for some activities	Instructor helps students to take advantage of opportunities to learn <i>and</i> fosters understanding of consequences of not taking advantage of such learning opportunities

CDA Composite Vignette

The findings in Article 3 presented the coaches' and facilitators' perceptions of their experiences participating in the CDC program by means of using composite vignettes to represent the data and emergent findings. A third perspective that warrants insight through the presentation of additional findings is that of the CDAs and their perceptions of their experiences participating and contributing to the conceptualization and design of the program. In line with the data analysis procedures and creative strategy used to represent the data in Article 3, the following section presents a composite vignette of the CDA. Only one profile surfaced from the thematic analysis (Braun et al., 2016) of the interview data of five CDAs who were involved throughout the entire program design process. The two other CDAs (as part of the sample of seven) were not included due to their inability to provide to a perspective of the entire process. See Article 3 for additional information on how a thematic analysis of interview transcripts provided the skeleton from which the following composite vignette was created. Table 19 presents the candidate themes and finalized themes with respect to the CDA emergent profile.

Can you tell me about your journey to becoming a CDA? I have always had a passion for sport. I grew up playing a variety of sports, including baseball, basketball, golf, and track and field. My participation was mostly recreational as a kid. Of course, being Canadian, a big part of my early sport experiences involved hockey. My friends and I spent the better part of our childhood playing street hockey. Rain or shine, or snow, it didn't matter. We would be outside until our parents made us come in for supper or bedtime. The games would get so competitive that we would sometimes forgo supper just to avoid conceding defeat. I continued to play sport into high school, where I was a member of the basketball, golf, and track teams. At that point, I would say I started

Table 19. Candidate and finalized themes with respect to the CDA emergent profile.

Finalized Themes	Biography of Education and Sport	Collaborative Strength	Abundance of Resources	Vision to Prioritize Learning	LC Challenges
Candidate Themes	 Broad early sport participation Coach role model Early coaching experience Strong background in education Learning facilitator experience View of learning that opposed traditional education 	 Collaboration-minded Knowledge is cocreated Leveraged Golf Canada and CAC contribution Sought out world-class expertise 	 Strong financial resources Two weeks of workshops in Florida Travel expenses for all CDAs, consultants Expeditious design and implementation 	 Leaders in 'coach' education program Align with adult learning, LC literature NCCP documents were aligned with vision Lifelong learning 	 Different perspectives related to coaching and learning Content (i.e., how much, what to add, what to cut) Evaluation (i.e., how to align it with LC) Learning activities takes more time

to get a bit more invested into competitive sport, specifically with golf and basketball. Instead of street hockey, during my years in high school I would spend almost all my time either golfing with my buddy or playing pick-up basketball on the court at the local schoolyard. My high school basketball coach would sometimes join in. He lived across the street from the school yard. Not only was he a great athlete, but he was a terrific coach and teacher. He taught Geography and Physical Education. Although I wouldn't have framed it as such back then, I realize now that he was a great mentor for me. Of course, he taught me a lot about basketball, but I learned more from him about how to achieve success off the court and the importance of developing strong character and work ethic. It was because him I became interested in coaching and started coaching at summer camps.

I proceeded to teach golf lessons and to coach a few local club basketball teams during my Bachelor's degree in Physical Education. I found great enjoyment in applying my academic learnings to my coaching practices. In fact, I remember one day learning about motor learning in a morning class and attempting to use what I learned that evening with the group of 15-year-old girls I was coaching. [He bursts into laughter] What a disaster that was! By the end of practice, those girls could barely remember how to dribble the ball. Sometimes it didn't go so well, but most often I could quickly see the benefit of bringing new ideas into my role as a coach. After I completed my undergraduate degree, I got a job as a Physical Education teacher in a small town. I always viewed my role in the classroom as more of a coach than a teacher. I treated the students like a team of athletes, and my goal was always to help them develop their skills so they could ultimately perform in their lives outside of school. I never connected to the traditional view of the teacher as the "sarge in the charge" [in reference to a sergeant and militaristic instructional approach]. Thanks to my high school basketball coach, I learned at an early age that teaching, like coaching, wasn't about me; it was about the students. I knew that if I was going to have any chance at helping them to learn and

succeed, I needed to connect with them and to understand who they are, what they're interested in, and what they aspire to achieve.

During the summer months, given that I had the time off from my teaching job, I would spend my time teaching golf lessons. It was a great way to stay involved in the sport and to keep active with coaching. Also, the extra money was always helpful. A few years later, after having completed a series of coaching courses and becoming a member of the PGA of Canada, I was asked to fill in as a course facilitator for a couple workshops. Notwithstanding the challenges that came with the job, I knew I found a role that really resonated with me through connecting my passions for coaching, teaching, and golf. I continued to facilitate part-time for a couple years, all the while attempting to maximize the contribution of my role given the program I was responsible for facilitating. It was around that time the PGA of Canada conducted an extensive review of their membership program and education offerings. As expected, the results didn't paint a very good picture of the education program. Given my background and experiences in education, I was offered a full-time job, so I quit my teaching job and became primarily responsible for redesigning and facilitating a new education program that would ultimately be participated in by upwards of 2,000 golf professionals. Perhaps a bit naively, I jumped in head first without really knowing what I was getting into, but it was a wild ride and an incredible learning experience. That was almost 20 years ago. Since then, I have completed a Master's degree in Education and become a senior administrator for the Association.

What about your experiences participating in the design of the CDC program? As you can imagine, the golf community was thrilled with Sport Canada's recognition of golf's official sport status and then the announcement of golf's re-entry into the Olympic Games. It was certainly an exciting but busy period of time. Part of the requirements from Sport Canada was the creation

and implementation of a coach development model aligned with the NCCP [National Coaching Certification Program]. Golf Canada [golf's National Sport Federation] reached out to us given our partnership and role in educating golf professionals. Typically, Golf Canada deals with Sport Canada, and we deal with the CAC [Coaching Association of Canada]. This was an opportunity for us to leverage our partnership. Together, we developed a plan and timeline to meet the demands of Sport Canada. It was an ambitious timeline, but we felt like we had the resources to get it done. The driving force behind this project was our shared vision of creating a world-class education program aimed at the revolutionary development of golf coaching. You have to remember that the concept of coaching in golf had previously not existed in a formal manner. Sure people used the term, but there were no certified coaches, only instructors. Our vision also included growing the sport nationally and positioning Canada as a leader among PGAs and golf federations worldwide. Golf Canada recognized the contribution we could make given our educational capacity and historic role in the education of golf professionals, and therefore they contributed to the project with valuable resources and technical support.

The plan included two separate weeklong workshops help at the PGA Village in Port St.

Lucie, Florida. The truth is we were very privileged to be working with resources that allowed us to fly everyone to Florida and get away for these intensive program development meetings. This really allowed for a full immersion environment and experience. The facilities were first-class, and the staff treated us exceptionally well during our stay. Leading these workshops was a core leadership group that included me and three other CDAs all with a strong background in education and coaching. We were referred to by the group as the "core four". Three of us had worked together to design the previous iteration of the PGA of Canada's education program, and the other CDA immediately and seamlessly fit in with the group. Not only did we all share a passion for coaching

and coach education, but we also all had an in-depth understanding and appreciation for adult learning principles, which led to a consistent [constructivist] view of learning. We all understood the shortcomings of the traditional education model in which the focus is on the teacher in front of the class imparting knowledge to students. That's not how learning works; that's not what the evidence supports. We wanted to make sure our program was LC and for the coaches who were going to be taking it to understand the importance of lifelong learning. To our delight, upon reviewing the objectives, guidelines, and templates provided to us by the CAC, we quickly realized that our view of learning and vision for the program aligned with the competency-based, LC approach that permeated their resources. I remember telling another CDA, "Thank goodness, they get it!" Not everything they provided was true to the philosophy, but it's clear their headed in the right direction and they're certainly trying.

In addition to the "core four", we also brought in a group of Canada's top golf instructors and individuals who we knew were doing great work in the field. We also leveraged our network of professional colleagues and sought out additional expertise. For example, we brought in a few world-class sport scientists: experts in motor learning, biomechanics, and planning and periodization. Ensuring that the program was informed by evidence-based research and practices was essential if we were going to achieve our objectives. In total, we had about 15 people join us for varying lengths of time during the two weeks in Florida to contribute to the design. Most of them stayed for 3-4 days. It was really special to be in a room with all of these experts in their respective disciplines working together to co-create new knowledge on behalf of golf in Canada. The initial design work required us to select the modules we wanted to "sportify" for golf and the modules that were going to be delivered as multisport modules through the CAC. Once we had that established, our task was to go through the templates and resources for the modules that were to be

tailored for golf and to carefully identify the specific outcomes, evidence, and criteria. From there, we needed to create the content and the learning activities, as well as the evaluation process.

Thankfully, we weren't working from scratch. In addition to the CAC material, the TCCP [previous iteration of the PGA of Canada education program, Teaching and Coaching Certification Program] provided us with a good starting point for the new program; it was already very comprehensive, and it incorporated many adult learning principles and teaching strategies that were being advocated for by the CAC. That said, it was designed for golf *instructors* [emphasis added], so we knew there would be significant change required to meet the demands of golf *coaches* [emphasis added].

It's important to note that the process of creating the CDC program wasn't all sunshine and rainbows. Despite being well positioned with all of our resources, we were certainly forced to overcome some adversity and challenge along the way. First, the days were long and exhausting. After the first few days, we realized that there was a lot of work to be done with a fast approaching deadline. We needed to be more productive. I remember we would work from 8am to 4pm in the boardroom with a few short breaks. From there we would return to the condos, break for dinner, and gather back in my condo to continue to work from 7 to 11pm. We would break off into small working groups. There would be a group working in the living room, one in the kitchen, one in a bedroom, and another on the patio outside. Thankfully, the people we brought in were up for the challenge. We also had to manage a couple individuals with opposing views to what we were attempting to create. In particular, there were two experienced [golf] instructors who had trouble distinguishing the role of a coach from that of a traditional instructor, as well as understanding the value of incorporating new coaching concepts like yearly training plans and periodization. They had an inflexible view of what golf coaching should be; they firmly believed the role of the coach should be to help athletes swing the club better in order to score lower, which of course is part of it,

but only one part. They also came from a generation where the instructor spoke and the students listened. The notion of guided discovery, self-reflection, and peer learning was completely foreign to them, and they were pretty firmly against it, viewing it as "a waste of time". Don't get me wrong, we always welcomed debates and discussions surrounding differences of opinions and perspectives during these meetings; this was an essential part of the creation process and our collective learning. However, these two people continued to present the same criticisms of our efforts and perspectives. At a certain point, their behaviour and interactions were disrespectful to others and became a significant distraction for the group. We were forced to ask both of them to leave early. We didn't want to be put in that situation, but we had to prioritize the program and its completion.

Another challenge was in selecting the content for the modules. You might not think of content as being a challenge when you have gathered a group of interdisciplinary experts like we did, but the problem wasn't in creating the content, it was determining how much [emphasis added] to include in each module, as well as what [emphasis added] to include and what to leave out. A coach education program cannot attempt to be a "one-stop shop" where coaches receive all of the information required to be an expert coach. Obviously, that's not possible. The goal is to develop basic competencies. So, we were constantly wrestling with the question of what content do we believe is going to best support the coaches in achieving this goal. Content is really a tricky thing. When you have too much content, the program becomes about the content and the delivery of the content; we call this "information-dumping". You can easily fall into the trap of having coaches try to memorize all the content to pass a certification exam or who believe that content and information alone make great coaches. That's not how it works. If that was the case, everyone would exercise and eat healthy, and no one would drink alcohol, smoke, or text and drive. Information alone doesn't lead to learning and behaviour change. Alternatively, another trap that exists is when there

is too little content to drive informed discussions and the creation of a meaningful and relevant learning environment. Of course, knowledge is contextual, but there are basic understandings that must first be had before we can begin both to reflect on their contextual implications and to nuance their potential contributions to coaching. I could go on about content because the topic is so fascinating, but the last thing I'll say about content is how important it is to have a facilitator who is able to help coaches connect with the content, see the content's relevance to their coaching, and to understand the value of returning to content for future learning. When you have facilitators like that, our job of designing programs becomes quite a bit easier. I should also mention that the process of selecting the content and creating the learning activities takes a lot longer when the focus is on learning. When the focus is on teaching, the learning activities are quite simple: sit, listen, take notes, and if time permits ask questions. We spent considerable time discussing the various types of LC activities that we could include in the modules and which ones were most appropriate for the content being delivered. For example, not every topic or activity would warrant a self-reflective element. Sometimes a case scenario and group discussion was a better option.

A final challenge was in creating the evaluation procedures. Evaluation and learning often work against each other. When the goal is to learn, we are free to discover, take chances, and to make mistakes. When the goal is to successfully get through an evaluation, we will avoid mistakes and unnecessary risk at all cost, and in doing so we are closed to new learning opportunities. We discussed at length about how we could create an evaluation process that both aligned with our learning philosophy and the templates and recommendations provided by CAC. It was important that we built in a certain degree of flexibility for coaches to have options in how they could display the evidence required to indicate they had successfully achieved the module outcomes. Again, we wanted to make it a meaningful and relevant activity, not just a final hoop to jump through. I am

really pleased with how the entire program turned out. I know it has received quite a bit of positive feedback from the CAC and the other PGAs and golf federation around the world. In the end, I believe we achieved the lofty objectives we initially set for the program. Is there room for improvement and continued development, of course! That's the point. As much as we advocate for lifelong learning in coaches, we also understand that the program needs to continually grow and adapt to the ever-changing needs and realities of golf coaching. In 10 years from now, I hope the program has far surpassed its current form to become better able to support the individual learning needs and overall development golf coaches in Canada.

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Chapter 7: Discussion and Conclusion

Discussion

The discussion is presented in four sections. In the first section, a general discussion of the prominent findings from each article is presented as a complementary extension to the discussions found within the articles. The second section outlines the practical implications of the research project which are organized into Article 4, an Insights paper to be submitted to the International Sport Coaching Journal. The article offers practical recommendations to CDAs in support of LC coach education. The third section discusses limitations to the research project and opportunities for future research. Finally, a brief reflection of my LC journey is presented in section four.

General Discussion

The purpose of this doctoral dissertation was twofold: to explore the contribution of using the LC theory, including a well-established LCT framework, to support coach education; and to examine the LC initiatives of a coach education program. In Article 1, a theoretical overview of the LC literature, including a framework for facilitating LC change and assessment, was presented and discussed in light of existing coach education literature and critical considerations for leading LC coach education. More specifically, all five dimensions of the framework were explored and linked to related critiques and recommendations from the coach education literature. As part of a broader discussion of leading LC change, strategies were also discussed for overcoming obstacles and resistance when creating and implementing LC coach education. Finally, four recommendations for applied practice were offered to help initiate the careful initiation of LC implementation. The result of the review of literatures and synthesis of emergent themes was an initial recognition of the direct alignment between the criticisms and remedial suggestions offered by coaching scholars and the theoretical and practical propositions of LCT. The contribution of this recognized alignment and proposed framework is noteworthy given the trends and issues identified in the literature. First, it

has been suggested that a 'key missing ingredient' in support of CDAs and coach education programming is the lack of an 'overarching conceptual framework' to guide coach learning (Horgan & Daly, 2015). Second, despite there being 'much common ground' in the research being conducted in our field, there appears to be little effort to recognize these commonalities and to unite existing understandings of coach learning and coach education (Lyle & Cushion, 2017).

Additionally, concerns related to the lack of specific evidence-based frameworks and strategies to support coach learning have been recognized by coaching scholars (Stodter & Cushion, 2016, 2017). Given the theoretical and practical links presented in Article 1 and throughout this dissertation, the LCT framework and its evidence-based underpinnings (APA, 1997) offers a suitable recourse to the literature.

In Article 2, the evolution of golf's historically rich coach education program was explored (Part 1), and the degree of LC implementation of the most recently developed context of the program was assessed using Blumberg's (2009) framework for developing and assessing leaner-centeredness (Part 2). The findings from the first part of the article revealed the program had evolved in large part due to epistemic shifts in the pedagogical paradigms and resulting approaches used to design the four iterations of the program. Starting on the far ICT end of the continuum, the program was redesigned with the objectives of undoing its infallibility and rigidity. In doing so, the program shifted to the far opposing end of the continuum by using extreme and misguided Socratic learning approaches. A balance was found with the third iteration of the program by reestablishing some foundation related to content delivery and structured evaluation. A final and subtle shift back towards a more appropriate and functional adoption of LCT approaches occurred in the creation of the most recent iteration of the program (i.e., CDC program). The findings present the challenges related to making changes to the epistemic framework of coach education. They also provide an

empirical backdrop to discuss the importance of careful and strategic consideration and planning when making an epistemic transition (Blumberg, 2009; Cullen et al., 2013). Changing our views of learning, regardless of the view we hold, will invariably influence our perceptions of the entire educational landscape, including the pedagogical objectives, roles and responsibilities of the various agents involved, teaching and learning methods, and assessment and evaluation structures (Light, 2008; Weimer, 2013). However, despite 'everything changing' when we shift paradigms (Barr & Tagg, 1995), we do not have to change everything in our courses or programs when transitioning to a new view of learning (Blumberg, 2009; Tagg, 2003). There is a misconception that renewing programs according to constructivist views of learning requires an 'all or nothing' approach (Blumberg, 2009; McCombs & Miller, 2009) or the removal or absence of subject content given the emphasis on knowledge construction (Davis & Harden, 1999; Roberts & Ryrie, 2014). The importance of being appropriately informed and having a strong understanding of the epistemic principles and their practical implications is a recurring theme in constructivist and LC literature (Blumberg, 2009; Light & Wallian, 2008; Trudel et al., 2013). Moreover, the effectiveness of implementing LC change in education has been found to be influenced by the epistemic beliefs of the program leaders and teachers (Colley, 2012; Cornelius-White, 2007). In coach education, there is some evidence that suggests a similar link with the CDA's beliefs and views of learning (Hussain et al., 2012; Werthner et al., 2012).

Valuable insight can be added to the discussion on the importance of having a deep understanding of an epistemology prior to leading LC change when considering Moon's (2001) view of learning and concept of representation of learning. According to Moon (2001, p. 69), "we can only demonstrate our learning through representation", and our capacity to represent our learning is directly influenced by the relative depth of our learning. Therefore, as it relates to

program design and the integration of LCT approaches as guided by a constructivist epistemology, our best possible representation of learning (i.e., the design of a constructivist-informed LC program) is limited to how deeply we understand constructivism, LCT, and the practical implications related education and pedagogy. More specifically, if CDAs, who aspire to lead LC change in their programs, do not move beyond a surface approach to learning constructivism and LCT approaches, their best possible representations of learning would likely involve the design of programs that might have some epistemic coherence, but are plagued with philosophical inconsistencies with the guiding principles and inaccuracies or misrepresentations of pedagogical approaches (Moon, 2001) – not unlike the attempt to design the second iteration of the program according to a Socratic method of learning. To this end, Light (2008, p. 26) highlighted that "even though many teachers use the language of constructivism, they do not actually teach in a constructivist way". Alternatively, if CDAs adopt a deep approach to learning constructivism and LCT approaches, their best possible representation of learning would entail a coherent program design that consists of a well-integrated collection of contextually relevant LCT approaches (Moon, 2001) – similar to the integration of LCT approaches within the CDC program.

Another interesting finding was the combination of internal and external drivers that were shown to trigger the program redesigns and epistemic transitions, in particular the dissatisfaction and resistance from the learners. The resistance to LCT approaches by the ICT Coach was also a prominent finding that emerged in Article 3. Resistance is indeed a theme that has received significant attention in the LC literature (Blumberg, 2009; Cullen et al., 2013; Weimer, 2013). Weimer (2013) indicated that it can be expected that students will at first resist LCT approaches because, compared to traditional ICT approaches, they (a) are more work, (b) are more threatening, (c) involve losses, and (d) may be beyond the students. First, LCT approaches are more work

because they require that students increase their engagement with the content and participate in more active and integrated learning (Blumberg, 2009; Weimer, 2013). Furthermore, students must accept the responsibility for learning, and therefore increase their involvement in planning and assessing their learning (Weimer, 2013). Second, LCT approaches are threatening because they require students to become independent and largely self-reliant learners. Candy (1991, p. 382) noted, "relying on oneself rather than the expert is frightening... [and] becoming a successful critical thinker means taking risks and fighting fears of failure and of the unknown". When students feel threatened, they will with great predictability respond by defending themselves and their beliefs (Cullen et al., 2013; Svinicki, 2004). Third, LCT approaches force students to reconsider what they know of and have come to expect from education (Schiro, 2013; Weimer, 2013). In developing their new conceptions, students will feel a "loss and longing for the simpler way things used to be" (Weimer, 2013). At a macro or organizational level, LCT approaches can jeopardize entrenched cultures, which can lead to a sense of loss in identity and tradition (Harris & Cullen, 2010; Schiro, 2013). Finally, although certain LCT approaches can be implemented at any level (McCombs & Miller, 2009), the success of many approaches will be dependent on the maturity and motivation of students (Blumberg, 2009).

In Article 3, the coaches' and facilitator's perspectives of their experiences participating in the LC designed program were examined. The emergence of divergent coach and facilitator profiles during the thematic analysis of the interview transcripts prompted the use of a composite vignette approach. The findings presented four composite vignettes as representations of the experiences of four composite characters delineated by their learning orientations relative to ICT and LCT. The four vignettes presented varied perspectives and experiences related to (a) their cognitive structure and view of learning, (b) the role and effectiveness of the facilitators, (c) the program's LC design,

and (d) their objectives for participating in the program and their engagement. Given their central role in the constructivist learning theories that have been used to conceptualize coach learning (i.e., Jarvis, 2006; Moon, 2001), the influence of coaches' cognitive structures (or biographies) on their learning has been well discussed and empirically supported (e.g., Stodter & Cushion, 2017; Werthner & Trudel, 2009). Although the specific influences of diverse aspects or elements of coaches' cognitive structures has not been the focus of many studies, we do know that aspects such as athletic and coaching experience, coaching objectives, and context or level of coaching have all been shown to diversely impact coaches' learning trajectories, preferred sources of learning, and the relative impact of coach education (e.g., Erickson et al., 2008; Gilbert et al., 2006; Wright et al., 2007). The findings from this article provide some additional insight into different aspects of the coaches' cognitive structures that influenced their perceptions of both the different facilitation styles (ICT vs. LCT) and the overall LC design of the program. More specifically, the coaches' learning orientation and view of learning, either LCT or ICT, appeared to shape their experiences and perceptions of the LC program.

The cognitive structural aspects related to coaches' learning have received some attention by coaching scholars (e.g., Collins et al., 2012; Griffiths & Armour, 2013; Paquette et al., 2014).

Coaches' 'views of learning', as aligned with constructivist or positivist assumptions, were found to influence a group of high-performance Triathlon coaches' experiences participating in an innovative constructivist-informed coach education program (Paquette et al., 2014). Coaches with traditional, positivist views of learning had difficulty accepting the constructivist approaches to training and assessment, and consequently perceived the program to have less value than coaches whose views of learning were more aligned with constructivism. In addition to views of learning, Collins et al., (2012) reported that coaches' 'approaches to learning', individualistic or

collaborative, influenced both their engagement in coach education and perceived impact of the program. Presented as 'vampires', certain coaches demonstrated rather individualistic and selfserving approaches to learning, compared to the 'wolves' who were coaches who displayed predominantly collaborative approaches to their participation and learning (Collins et al., 2012). A third closely-related aspect of coaches' cognitive structures was studied by Griffiths and Armour (2013). The authors examined the influence of volunteer coaches' 'learning dispositions' in coach education, and found coaches' dispositions to intentionality and reciprocity impacted their engagement in coach education. The 'intentionality' theme was comprised of a series of subthemes, including "inquisitiveness, awareness of support opportunities, self-efficacy, attentiveness and open-mindedness" (Griffiths & Armour, 2013, p. 682), whereas 'reciprocity' incorporated "a readiness to engage with others and to ask questions, and a willingness to accommodate alternative points of view" (p. 684). The collective findings from these studies, coupled with the findings from Article 3, create an expansive understanding and conceptualization of the cognitive structural aspects related coaches' learning and engagement in coach education, in particular constructivistinformed, LC coach education.

As presented above, the facilitators' cognitive structures also influenced their perceptions of their role and engagement in the program, as well as the LC status of the program. Increased attention is being directed at the delivery of coach education (e.g., Leduc et al., 2012; Nelson et al., 2014; Werthner et al., 2012). Moreover, a review of the literature reveals that research examining the impact of coach education programs has traditionally done so with some consideration for the influence of the role of the facilitators. Among the 16 studies reviewed by Trudel et al. (2010), many of them presented a detailed account of the pedagogical strategies used to deliver the program being studied (e.g., Jones & Turner, 2006; Knowles et al., 2001). However, only a few of the

studies discussed the facilitators' adherence to or delivery of the pedagogical strategies, or the coaches' perceptions of the facilitators and resulting impact of these perceptions on coach learning. There is compelling body evidence in education (Breeman et al., 2015; Cornelius-White, 2007) and psychology (e.g., Hunsley & Lee, 2007; Kelley, Kraft-Todd, Schapira, Kossowsky, & Riess, 2014) that indicates the impact of an intervention is largely influenced by the facilitators of the intervention (i.e., psychologists and teachers), their personal characteristics, and the quality of relationships they form with the clients or students. Considering the LCPs were developed from a synthesis of research-validated knowledge from education and psychology (McCombs, 2003), there is no reason to be believe the impact of any coach education program, specifically LC programs, will be immune to the facilitator and his/her contribution to the delivery of the program and engagement of the coaches. Indeed, the data from Article 3 provides empirical support for this proposition.

The discussion of learning facilitators and their role in constructivist-informed LC programs can be greatly enhanced and expanded upon by exploring the conceptual and theoretical consistencies between the LCT framework presented in Article 1 and the examination and implications of Carl Rogers' 'person-centered' learning (e.g., Rogers, 1951, 1959, 1969) as presented by Nelson et al. (2014). Within his seminal book, *Freedom to Learn*, Rogers (1969, p. 103) proclaimed that "Teaching, in my estimation, is a vastly over-rated function". This statement was aimed at the traditional ICT role of the instructor to impart unfiltered knowledge to passive students, which according to Rogers would only be appropriate if the environment was predictable and unchanging. Instead, he believed the ultimate goal of education should be the facilitation of learning, both to nurture and empower the development of creative, responsible, and self-directed learners who are able to respond to unexpected problems and to adapt to the ever-changing environment (Rogers, 1969). Despite coming from different traditions with nuanced views of

learners' inherent qualities and motivations, the similarities between Rogers' humanist theorising (e.g., Rogers, 1959, 1969) and the constructivist LC literature (Blumberg, 2009; Weimer, 2002) are remarkable (Cornelius-White, 2007). Perhaps the most significant contribution Rogers (1969) can make to the coach education and LC literatures comes from his proposition that effective interventions are dependent on both the quality of the intervention or content being presented, as well as the quality of facilitation and of the relationship between the facilitator and the learner (Rogers, 1969). Rogers proposed that central to quality facilitation and facilitator-learner relationships is the recognition of the learners' emotions and feelings; therefore, empathy, genuineness (i.e., 'realness'), and unconditional positive regard are deemed to be essential qualities of facilitators (or teachers or therapists, Rogers, 1969).

Both Jarvis (2006) and Moon (2001) integrate the influential work of Rogers into their respective learning theories and recognize the critical influence of emotions and feelings on learning. Jarvis's definition of learning is reflective of this view. According to Jarvis, learning is broadly defined as the processes whereby the whole person (i.e., body and mind), including their emotions, are transformed in part emotionally, resulting in a continually changing biography and person. Alternatively, Moon's generic view of learning presents learning as a vast network of knowledge, feelings, and emotions. As such, she discussed the importance of facilitators "managing a positive emotional climate of learning" (p. 110) due to the noted influence of learners' attitudes, emotions, and feelings both on their readiness for learning and engagement in learning (Moon, 2001, 2004). More specifically, she suggested that all learner emotions, including the seemingly related and unrelated to learning, are part of the emotional process that influence learning (Moon, 2004). As such, facilitators are prudent to develop their emotional intelligence capacity (Moon, 2004). The influence of Rogers' theories has also permeated the LC literature (e.g., Blumberg,

2015; Cornelius-White, 2007; McCombs, 2013). Despite the LCT framework (Blumberg, 2009) not addressing the emotional processes in learning or the facilitators' influence on the processes, Principle 7 of the LPCs (APA, 1997, para. 10) outlines this important factor:

What and how much is learned is influenced by motivation. Motivation to learn, in turn, is influenced by the individual's emotional states, beliefs, interests and goals, and habits of thinking.... emotional factors also influence both the quality of thinking and information processing.... Positive emotions, such as curiosity, generally enhance motivation and facilitate learning and performance. Mild anxiety can also enhance learning and performance by focusing the learner's attention on a particular task. However, intense negative emotions (e.g., anxiety, panic, rage, insecurity) and related thoughts (e.g., worrying about competence, ruminating about failure, fearing punishment...) generally detract from motivation, interfere with learning, and contribute to low performance.

Unfortunately, as pointed out by Dixon, Lee, and Ghaye (2013, p. 587), "coach education has fundamentally neglected the importance of reflecting on emotions". Furthermore, with the exception of Nelson et al.'s (2014) examination of Rogerian theory, the literature appears void of empirical or theoretical resources exploring the influence of the facilitators' interpersonal effectiveness, ability to develop meaningful relationships with coaches, and to manage the emotional processes of coach learning within coach education.

Finally, the CDAs' perceptions of their experiences participating and contributing to the conceptualization and design of the program were presented through a single composite vignette that was created using the same data analysis procedures employed in Article 3. Four emergent themes were found to influence the CDAs' experiences and the design of the program: (a) biography of education and sport, (b) collaborative strength and abundance of resources, (c) vision

to prioritize learning, and (d) LC challenges. Given the emergent role of CDAs (Lafrenière, 2015) and the dearth of research that focuses specifically on CDAs (McQuade & Nash, 2015), there is much to learn "about who these people are [and] how their background influences their development and practice" (Horgan & Daly, 2015, p.355). To date, our understanding of the role of the CDA has been predominantly informed by idealistic conceptualizations (Abraham et al., 2013). According to the ICCE's International Coach Developer Framework (ICCE, 2014), the broad roles of CDAs include leader, facilitator, mentor, assessor, and course designer. The findings from this doctoral dissertation provide empirical support for the multifaceted roles of CDAs. Indeed, all of the CDAs who participated in this research project reported having diverse roles within the golf's broader NCCP, and two of them were shown to co-act as CDAs (program designer and coordinator) and facilitators in the CDC program. Moreover, coaching scholars have suggested that effective CDAs should possess a deep understanding of coaching, the sporting context, adult learning, lifelong learning, and curriculum design (Abraham et al., 2013; McQuade & Nash, 2015). The emergent themes from the CDAs' interviews provide additional support for these proposed CDA prerequisites. Given the growing interest to develop initiatives and programs focused on coach learning (Callary et al., 2014; Trudel et al., 2013), coupled with the limited research (including the findings from this dissertation) that shows the influence of CDAs' views of learning on program design (e.g., Hussain et al., 2012), ongoing emphasis to support the specific CDA roles related to learning and the development of a deeper understanding of learning theories and strategies to promote coach learning will be key moving forward (Horgan & Daly, 2015; Trudel et al., 2013).

Doctoral Dissertation: Kyle Paquette

Article 4

Learner-centered coach education: Practical recommendations for coach development administrators

Paquette, K., & Trudel, P. (accepted as an Insights paper). Learner-centered coach education:

Practical recommendations for coach development administrators. *International Sport Coaching Journal*.

Doctoral Dissertation: Kyle Paquette

Abstract

Despite a well-established understanding of the complexity inherent to both learning and sport

coaching, programs designed to educate coaches have until recently been guided by pedagogical

approaches aligned with rather simplistic views of learning. Thanks to the critical and innovative

efforts of coaching scholars to uncover the shortcomings of traditional programs and their guiding

epistemic traditions, coach education is becoming increasingly infused with constructivist, learner-

centered (LC) strategies to help meet the complex needs of coaches. Although many LC informed

recommendations have been offered, rarely do they provide coach development administrators

(CDAs) with concrete, practical suggestions. Furthermore, the recommendations are scattered

throughout the literature which makes an already arduous task of bridging research and practice

even more difficult for CDAs. Guided by the LC literature, a practical learner-centered teaching

(LCT) framework, and previous recommendations presented in the coach education literature, this

Insights paper presents a theoretically robust and empirically supported collection of practical

recommendations for CDAs to support three critical areas of LC coach education: program design,

facilitation, and coach engagement.

Keywords: Coach development, constructivism, design, facilitation, learning

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Introduction

The complexities of learning (e.g., Hager & Hodkinson, 2009; Rogers, 1969) and sport coaching (e.g., Côté, Salmela, Trudel, Baria, & Russell, 1995; Smith, Smoll, & Hunt, 1977) have both been widely accepted notions and central themes to their respective literatures for decades. Despite being equipped with these fundamental understandings, programs designed to educate coaches have, until recently, been guided by pedagogical approaches aligned with rather simplistic views of learning (Trudel & Gilbert, 2006; Paquette, Hussain, Trudel, & Camiré, 2014). One possible explanation for why this clear disconnect occurred relates to the traditional instructional paradigm that has dominated Western education (Light, 2008; Tagg, 2003). Sport coaching researchers and practitioners continue to be "for the most part, the products of the instruction paradigm" (Paquette & Trudel, 2016, p. 64). Harris and Cullen (2010, p. 34) aptly described the paradigm, anchored in behaviourism, as our first language: "We don't remember how we learned it; we may not understand the grammatical structures that underpin it, but we know it and use it with great facility". Another potential explanation relates to the desire for simplicity and rapid growth in creating standardized curriculums and quality assurance frameworks for program stakeholders (Quehl, Bergquist, & Subbiondo, 1999; Tagg, 2003). When learning is reduced to "a simple linear process based a conception of learning as a process of internalizing pre-existing external knowledge" (i.e., behaviourism, Light, 2008, p. 29), the focus naturally shifts to instruction and the role of the instructor to teach a curated external knowledge to a mass audience. Given that funding is often a primary catalyst and driven force for education reforms and strategies both in education (Quehl et al., 1999; Tagg, 2003) and sport coaching (Lyle, 2007; Piggott, 2012), simplistic coach education programs allow for an expeditious growth in the population of certified coaches, leading to greater perceived program effectiveness (Trudel, Gilbert, & Werthner, 2010), and in turn greater

levels of funding. Regardless of the rationale for the instruction-centered and largely didactic methods employed by these programs, their limited impact has been well documented and criticized by scholars (e.g., Chesterfield, Potrac, & Jones, 2010; Morgan, Jones, Gilbourne, & Llewellyn, 2013a), ultimately leading to a propagated notion that coach education has little value in coaches' development (Nelson & Cushion, 2006; Trudel et al., 2010).

We must remember that uncovering our guiding paradigm and initiating change is difficult because our "common sense assumptions about how we learn operate, unquestioned, at a subconscious level" (Light, 2008, p. 33). Therefore, it requires challenging assumptions, critical inquiry, and innovative thinking (Harris & Cullen, 2010; Weimer, 2013). Indeed, this is precisely what has taken place within the coach development literature throughout the past decade. Thanks to the critical and innovative efforts of coaching scholars to uncover the shortcomings of traditional coach development initiatives and education programs (e.g., Mallett, Trudel, Lyle, & Rynne, 2009; Werthner & Trudel, 2006), coupled with the collection of targeted critiques that has accumulated as a result of this discourse (see Paquette & Trudel, 2016), our expanded understanding of coach learning has led to both a reconceptualization of coach education and a reconfiguration of programming in many countries around the world (e.g., Callary, Culver, Werthner, & Bales, 2014; Werthner, Trudel, & Culver, 2012). Research approaches and recommendations for practice have finally begun to align with the complexity that has been long recognized with both learning and coaching. As such, coach education is becoming increasingly infused with *learner-centered* (LC) strategies to help meet the complex needs of coaches as learners (Cassidy & Kidman, 2010; Paquette et al., 2014). Based on the findings from an emerging body of literature, it appears the strategies are indeed increasing the impact of coach education (e.g., Deek, Werthner, Paquette, & Culver, 2013; Morgan, Jones, Gilbourne, Llewellyn, 2013b).

Despite the many critiques and recommendations offered in support of research and the practice of coach development administrators (CDAs), Trudel et al. (2013, p. 385) noted, "the criticisms received by CDAs regarding the limits of their coach education programs are rarely accompanied with concrete suggestions on what they can do to impact positively the learning of the coaches". Moreover, the collections of recommendations are scattered throughout the literature which makes an already arduous task of bridging research and practice even more difficult for CDAs. Weimer (2013) described the learning literature using the following jigsaw puzzle analogy:

This body of knowledge remains largely unassembled. It resembles a giant jigsaw puzzle that has a whole community working on it. A few sections are more or less finished.

Collections of related but not yet connected pieces lie close together in other sections. And there are still a lot of individual pieces, definitely part of the puzzle but currently just spread out on the table. (p. 7)

We see many similarities in regard to the coach education literature, specifically when reviewing the complex and dispersed collection of LC themed, constructivist recommendations and practical support offered by scholars to CDAs. Indeed, given the heightened complexity faced by CDAs looking to integrate constructivist learning principles into their programs (Paquette et al., 2014; Trudel et al., 2013), coupled with research advocating for the adoption of LC approaches (Lyle, 2007; Paquette & Trudel, 2016), efforts should be made by scholars to help organize and translate academic recommendations into practical strategies to help bridge the often insurmountable divide between research and practice (Holt et al., 2017; Trudel & Gilbert, 2006). Accordingly, Paquette and Trudel (2016) presented a popular and well-established *learner-centered teaching* (LCT) framework (Blumberg, 2009; Weimer, 2002) to help inform and shape the LC interest in coach education. The authors acknowledged the benefits of using the framework to better organize and

address the existing critiques and recommendations according to their LCT underpinnings. Given the concerns that coaching scholars have "yet to provide specific, structured, evidence based suggestions" to enhance coach learning (Stodter & Cushion, 2016, p. 36), the introduction of the LCT framework founded on 14 evidence-based Learner-Centered Psychological Principles (LCPs) that apply to all learners (APA, 1997), appears to be both relevant and timely. As such, the purpose of this Insights paper is to present a theoretically robust and empirically supported collection of practical recommendations for CDAs to support LC coach education.

Learner-Centered Alignment

Based on an integrated understanding of the LCPs (APA, 1997), McCombs and Whistler (1997) defined learner-centeredness as a perspective that focuses both on *the learner* (i.e., his/her cognitive structure) and on *learning*, described by the authors as "the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners" (p. 9). The quality of learner-centeredness can never be determined by focusing solely on teacher characteristics, instructional strategies, or course designs in the absence of the learner (McCombs, 2004). At the heart of learner-centeredness are the learner's perceptions of the above elements of educational programs and the complex interaction between them (APA, 1997). Consequently, when conceptualizing LC coach education, careful consideration must be devoted to the design of the program, its delivery methods, and strategies to enhance coach engagement and ultimately its impact on learning. We also recognize that for LC coach education to be successful, all the various agents involved, including the CDAs, facilitators and coaches, will need to be aligned in their views and participatory adoption of constructivist learning principles (Paquette et al., 2014; Trudel et al., 2013). If this can be

¹⁰ The summarized research from which the LCPs were constructed can be found in Alexander and Murphy (1998), Cornelius-White (2007), Kanfer and McCombs (2000), Lambert and McCombs (1998), McCombs (2000, 2001, 2004), McCombs and Miller (2007), McCombs and Whistler (1997), and Perry and Weinstein (1998).

achieved, rather than being a primary source of resistance to the LC initiatives, "many of these stakeholders can become part of [the] strategy for overcoming obstacles" (Blumberg, 2009, p. 247). Below are recommendations based on the coach education and LC literatures to help CDAs address the three critical areas of LC coach education: program design, facilitation, and coach engagement.

Program Design

The bulk of criticism aimed at coach education has historically targeted program design, specifically the common shortcomings related to its low ecological validity (Cushion, Armour, & Jones, 2006; Gilbert & Trudel, 2006) and minimal focus on the learner and learning (Cassidy, Potrac, & McKenzie, 2006; Deek et al., 2013); decontextualized learning environment (e.g., Cushion, Armour, & Jones, 2003; Jones & Turner, 2006); the use of a 'one-size-fits-all' approach (e.g., Nelson, Cushion, & Potrac, 2013; Trudel et al., 2010) or 'top-down' approach (e.g., Côté, 2006; Trudel & Gilbert, 2006); lack of collaboration and social learning opportunities (e.g., Roberts & Ryrie, 2014; Vella, Crowe, & Oades, 2013), as well as consideration or integration of reflection (e.g., Knowles, Tyler, Gilbourne, & Eubank, 2006; Nelson & Cushion, 2006). As potential remedies for these design limitations, coaching scholars have offered numerous recommendations (although not all presented in concrete practical terms), including the integration of active, interactive, and reflective learning activities (e.g., Knowles et al., 2006; Nelson et al., 2013), the use of relevant content to address relevant, real-world coaching issues (e.g., Lyle, Jolly, & North, 2010; Morgan et al., 2013a), and the focus on developing learning skills (e.g., Cushion et al., 2010; Milistetd, Galatti, Collett, Tozetto, & Nascimento, 2017). Here are four recommendations specifically to support the design of LC coach education:

Become a LC leader. Despite the limited scholarship focused directly on CDAs (Horgan & Daly, 2015), research has begun to shed light on the importance of the CDA's role in program

design (Hussain, Trudel, Patrick, & Rossi, 2012; McQuade & Nash, 2015). More specifically, CDAs' cognitive structures, in particular their views of learning, have been found to contribute to the adoption of constructivist-informed, LC program designs (Hussain et al., 2012; Paquette, Trudel, Duarte, & Cundari, in review). Within the LC literature, significant attention has been placed on the importance of having strong leadership to guide LC initiatives and to manage the challenges and obstacles that can be expected with LC programming (Harris & Cullen, 2010). As a starting point to becoming a LCT leader, we recommend that CDAs invest time developing a deep understanding of what LCT is all about, for example, the constructivist learning assumptions that guide LCT (e.g., Light, 2008), the benefits and expected challenges of LCT (e.g., McCombs & Miller, 2009), the research evidence that supports LCT (e.g., Alexander & Murphy, 1998), and how other coach education programs have successfully integrated LCT or other related approaches (e.g., Paquette & Trudel, 2018). Once this is achieved, CDAs will be positioned to better understand the degree of congruence between their cognitive structures and the epistemic traditions of LCT, and in turn how they will need to manage any clear disconnects (McCombs & Miller, 2009). They will also be able to create a clear vision and informed rationale for how they want to systematically integrate LCT approaches into their programs (Armour, Griffiths, & De Lyon, 2016).

2. Use a variety of learning strategies to achieve specified learning outcomes. The achievement of specified learning outcomes is a central element of LC programs (Blumberg, 2009) and more broadly constructivist-informed courses (Moon, 2001). In accordance with LC literature, Moon (2001, p. 24) acknowledged two types of learning outcomes: "those that refer to learning at the end of the course itself and another set that relates to the changed practice in the workplace". Considering the importance of using well-articulated and reasoned learning outcomes to inform the rest of the LC program design, we encourage CDAs to consult Moon (2001, p. 6), who described

her resource as an "overt adoption of learner-centered and constructivist approach[es]", for support in defining and writing the learning outcomes for the programs. Once learning outcomes are prepared, we recommend that CDAs be mindful of creating a learning environment that accommodates different learning styles by means of incorporating a range of learning strategies that align with their outcomes (Blumberg, 2009; McCombs & Miller, 2009). The use of action-research (Jones, Morgan, & Harris, 2012) and problem-based case scenarios and ethno-dramas scenes (e.g., Jones & Turner, 2006; Morgan et al., 2013a) have been presented as innovative strategies for coach education that all employ LCT approaches. More common learning strategies include self-reflections, group activities and discussions, practical training and role-playing activities, and varied uses of multimedia strategies (e.g., video and diverse presentation software).

3. Deliberately develop learning skills. Recently, coaching scholars have been advised to consider learning how to learn as a 'basic condition' for sport coaching and coach development (Milistetd et al., 2017). As mentioned above, developing learning skills in coaches is a recommendation that has previously been made by a number of coaching scholars (e.g., Cushion et al., 2010), and a variety of targeted learning skills have been advocated, such as reflective skills (Knowles et al., 2006; Milistetd et al., 2017), creating networks (Leduc, Culver, & Werthner, 2012; Trudel et al., 2013), and learning to plan (Abraham, Muir, & Morgan, 2010; Nash & Sproule, 2009). Blumberg (2009, p. 132) noted that "many instructors either assume their students already have these skills or do not take the time to teach them". Alternatively, LC instructors explicitly teach appropriate learning skills to their students to help them navigate the accessible abundance of information and to promote lifelong learning (e.g., Blumberg, 2009; McCombs & Miller, 2009; Weimer, 2013). We recommend that CDAs design specific learning activities at the beginning of their courses or programs that help coaches to develop a variety of relevant learning skills, such as

reflection, time management, self-monitoring, goal-setting, and how to access and evaluate content and sources of information (APA, 1997; Blumberg, 2009).

4. Unite assessment with learning. Central to LC program design is the complex interplay between content, assessment and learning, and the impact of this interplay on the achievement of learning outcomes (Trudel et al., 2013; Werthner et al., 2012). When programs are designed to cover too much material, not only will instructors feel pressured to get through it all, and in doing so move away from LCT approaches (Blumberg, 2009), coaches will be encouraged to adopt a surface/less integrated approach to learning (Trudel et al., 2013). Furthermore, increased content often results in the need for simplistic and summative evaluation strategies that challenge LCT approaches (Blumberg, 2009). This issue becomes increasingly problematic given that learners will typically adjust their learning strategies based on the anticipated assessment (Moon, 2001), and coaches have been found to adapt their behaviours to pass evaluations when significant emphasis is placed on the 'right' way of doing things (Chesterfield et al., 2010). When designing a LC program, assessments "occur earlier and more often, to integrate learning and assessment and to allow students opportunities to improve" (Blumberg, 2009, p. 157). This recommendation has previously been discussed and supported by numerous researchers (e.g., Paquette et al., 2014; Roberts & Ryrie, 2014). We recommend that CDAs design assessment protocols that make use of a variety of LC assessment strategies, including peer and self-assessment, authentic assessment, and debriefing and formative feedback (APA, 1997).

Facilitation

A recurring concern and critique of coach education is of programs or courses not being delivered as designed (Nelson et al., 2013; Werthner et al., 2012). McCullick et al. (2009, p. 333) rightfully pointed out that "if the content of a coach education program is good but the means of

delivering and learning the content are flawed, the relevancy of the content is minimized". This recognition is particularly relevant to LC coach education given the paramount and largely unvarying role of the facilitator (Weimer, 2013). Despite only one LCT dimension of Blumberg's (2009) framework explicitly addressing the facilitator (i.e., the role of the instructor), 25 of the 29 components are directly dependent on the facilitator's participation. A variety of recommendations have been aimed at enhancing the quality of facilitation, including selecting more *credible and knowledgeable facilitators* (Nelson et al., 2013; Wiersma & Sherman, 2005) who effectively *embrace and adhere to the role of facilitation* (Paquette et al., 2014; Werthner et al., 2012), and who encourage increased *collaboration and interactions within coaches* (Cassidy et al., 2006; Jones et al., 2012) and *between coaches and facilitators* (Chesterfield et al., 2010; Roberts & Ryrie, 2014). Here are three recommendations regarding facilitation for LC coach education:

5. Recruit facilitators, not instructors. This recommendation was originally presented by Trudel et al. (2013) who acknowledged the impact of a facilitator's cognitive structure on his/her engagement with coaches and method of program delivery. Epistemic beliefs about teaching are not only difficult to change (Light, 2008; Weimer, 2013), but they are "an important predictor of the success and long-term viability of changes in teaching" (Blumberg, 2009, p. 247). As such, we recommend that CDAs create a facilitator selection protocol that helps to identify a candidate's cognitive structure, specifically their beliefs and practices related to learning and teaching. This can be accomplished using a series of interview questions based on the literature that has examined the assessment of LC beliefs and practices in teachers (e.g., McCombs & Lauer, 1997). For example: "Do you believe coaches achieve more in courses in which facilitators encourage them to express their personal beliefs and feelings? Do you believe addressing coaches' social, emotional, and physical needs is just as important to learning as meeting their intellectual needs? Please explain."

(adapted from McCombs & Lauer, 1997). Alternatively, the five dimensions of LCT could be used to guide interview questions. For example: "Please discuss your view of the function of content; What do you believe is the role of the facilitator?; Where does the responsibility of learning lie in coach education?; How should assessment be used in coach education?; Please discuss how you view the balance of power in a classroom."

6. Provide LC facilitator training. Once facilitators have been selected, it will be important to provide deliberate LC training. This recommendation has been previously discussed by both Paquette et al. (2014) and Werthner et al. (2012). Compared to teachers who commonly deliver courses they have carefully designed, this recommendation becomes increasingly important in constructivist coach education because "the delivery of content is usually given to a person who has not been involved in the design of the program" (Trudel et al., 2013, p. 381). Moreover, within facilitator training, facilitators have recently been found to express greater comfort with the content they are expected to deliver compared to the pedagogical approaches that underpin their facilitative strategies (Leduc & Culver, 2016). Given the complexity of LC facilitation, an important first step in facilitator training could involve the review of seminal LC resources (Paquette & Trudel, 2016). We recommend Barr and Tagg (1995), the Learner-Centered Psychological Principles (APA, 1997), and Weimer (2013). We would like to stress that all LC facilitator training initiatives should be guided by the appropriate integration and modelling of LCT approaches by the trainers. Like LC coach education, facilitator training should begin with the establishment of relevant learning outcomes. It should then involve a series of targeted learning activities using a variety of learning strategies to create an inclusive learning environment that accommodates different learning styles; examples of strategies include case scenarios, peer discussions, role playing, and self-reflections (Blumberg, 2009). Finally, given the impact of both the facilitators' characteristics and ability to

develop meaningful relationships with the learners on LCT approaches (Cornelius-White, 2007), CDAs are urged not to overlook the deliberate training of timeless facilitator qualities, such as of empathy, genuineness, and unconditional regard (Rogers, 1969).

7. Regularly assess facilitator performance. Questions regarding the ability to maintain consistent LC facilitation have been raised both in education (e.g., McCombs & Lauer, 1997) and coach education (Werthner et al., 2012). It continues to be recognized in education that teachers adopting LC practices must be supported with self-assessment and reflection tools (Blumberg, 2009; McCombs & Miller, 2009). Furthermore, CDAs have also been called to action to provide facilitators with ongoing training and assessment opportunities (Leduc & Culver, 2016; Werthner et al., 2012). Accordingly, it will be important to assess facilitator performance regularly, both to uphold the quality of program delivery and to support the continued learning and development of LCT facilitators. A variety of assessment strategies can be used. From the LC literature, we recommend a 360 degree LC assessment (see McCombs & Lauer, 1997), the Assessment of Learner-Centered Practices (ALCP) surveys (McCombs, 1999), and Blumberg's (2009) rubrics and Planning for Transformation Exercise. Alternatively, a number of documented LC informed practices with coach education can be used to guide facilitator assessment, such as the creation of learning portfolios (Callary et al., 2014) and the use of formal observation or video recording followed by structured peer debriefing (Paquette et al., 2014; Werthner et al., 2012). Finally, in line with Blumberg's strategies for overcoming obstacles and resistance, facilitator assessment is recommended to leverage the benefits of working with peers and sharing of personal successes and challenges at regularly scheduled facilitator gatherings.

Coach Engagement

The impact of coaches' cognitive structures (or biographies) on their learning has been conceptually explored (e.g., Trudel et al., 2013; Werthner & Trudel, 2006) and empirically supported (e.g., Leduc et al., 2012; Stodter & Cushion, 2017). We know regardless of what information is available or presented to coaches within a learning context, what is learned by coaches is dependent on the 'filtering' and 'guidance' functions of their cognitive structures (Stodter & Cushion, 2017; Trudel et al., 2013). Moreover, the influence of coaches' cognitive structures provides explanatory insight into preferred sources of learning (Erickson, Bruner, MacDonald, & Côté, 2008; Gilbert, Côté, & Mallett, 2006), engagement in coach education programs (Collins, Abraham, & Collins, 2012; Paquette et al., 2014), and the differing impact associated with their participation in coach education (Deek et al., 2013; Leduc et al., 2012). Coaching scholars have made a few broad recommendations to help CDAs deal with improving coach engagement and managing their cognitive structures, such as taking a coach-centered approach to programming (McQuade & Nash, 2015; Nelson et al., 2014), connecting curriculum to coaches' existing experiences (Morgan et al., 2013b; Stodter & Cushion, 2016), encouraging facilitators to be mindful of coaches' cognitive structures (Deek et al., 2013; Leduc et al., 2012), and regrouping coaches with similar cognitive structures (Trudel et al., 2013). Here are three specific recommendations to promote coach engagement in LC coach education:

8. Help coaches to recognize their view of learning and to understand LCT. In light of the anticipated resistance of these approaches (Paquette et al., 2014) and "to avoid learners' rejection of information that could otherwise be highly valuable" (Stodter & Cushion, 2017, p. 335), it will be important for CDAs "to help [coaches] examine their learning preferences and expand or modify them, if necessary (APA, 1997, para. 11). For example, coaches' views of learning (e.g., constructivist vs. positivist, Paquette et al., 2014), approaches to learning (e.g.,

individualistic vs. collaborative, Collins et al., 2012), and learning dispositions (e.g., intentionality and reciprocity, Griffiths & Armour, 2013) have all been found to influence engagement or impact in coach education. Therefore, we recommend an introductory module or series of activities related to "Learning about learning" that would help to frame the remainder of the program. As a starting point, we suggest using existing "user-friendly" literature to help coaches reflect on differing epistemic traditions and their implications for coach learning and coaching practices (e.g., Paquette & Trudel, 2016; Robert & Potrac, 2014; Werthner & Trudel, 2006). From there, coaches can be guided through a reflection activity on their perceptions of the themes discussed in the articles, with specific attention to having them identify their views of learning, and the resulting habits for learning that drive their engagement in education programs. Finally, to help coaches embrace LCT, they should be explicitly presented with the LCT approaches that underpin the program's design and facilitation (Blumberg, 2009; Harris & Cullen, 2010). Even upon the conclusion of these activities, it will be important for facilitators to continually assess the "interaction between learner differences and curricular and environmental conditions" (APA, 1997, para. 17).

9. Prioritize making content meaningful for coaches. Moon (2001, p. 67) pointed out that "the nature of meaningfulness in the constructivist approach is crucial for the relationship between the process of learning and instruction". Although what is considered meaningful is entirely dependent on the learner (i.e., coach), trained LC facilitators who take the time to learn about the coaches will be able to enhance their probability of judging what is meaningful for the coaches and in turn presenting material in a meaningful way (Moon, 2001). The key is for facilitators to deliberately examine the cognitive structures they are attempting to access. Moreover, despite the process of making content meaningful for coaches being, in large part 'informed guesswork' on behalf of the facilitators, meaningfulness in coaches can be stimulated through their perceived

relevance of the material (APA, 1997; Moon, 2001). Trudel et al. (2013, p. 381) stated, "if coaches have difficulties seeing the links between what will be presented to them and their coaching practice they are less likely to adopt a deep [meaningful] approach to learning". In line with Trudel et al. and other scholars who have discussed this issue (e.g., Deek et al., 2013; Stodter & Cushion, 2016, 2017), we recommend that facilitators regularly prompt coaches to reflect on any relevant connections between the material and their own practices, interests, and learning outcomes.

Although this recommended strategy will take time, it aligns with LCT approaches and will lead to greater learning and outcome achievement (APA, 1997; Blumberg, 2009).

10. Empower coaches with increased autonomy and learning options. Finally, the development of LC coach education will require a reconsideration of the power dynamics between CDAs, facilitators, and most importantly coaches (Blumberg, 2009). The *Intrinsic Motivation to Learn* principle of the LCPs (APA, 1997, para. 14) states: "The learner's creativity, higher order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control". In short, when programs are designed and delivered according to inflexible guidelines and provide coaches with no opportunity for decisional input, coaches lose the autonomy to "individualize their journey to certification" (Paquette et al., 2014, p. 83). This has been found to decrease intrinsic motivation to learn and the achievement of learning outcomes (Cornelius-White, 2007). In line with the LCT framework, we recommend that CDAs empower coaches with increased autonomy and learning options. Coaches should be encouraged by facilitators to provide input on the course content, course policies and deadlines, and learning and assessment methods; furthermore, they should be given the freedom to both express alternative

perspectives during training (Blumberg, 2009) and to make use of a wide range of assessment options built into the program to allow them to meaningfully represent their learning (Moon, 2001).

Additional Consideration

Prior to embarking on their LC journey, we advise CDAs to consider the *length of LC* course or program they are looking to develop or redesign. Coach education programs come in many different "shapes and sizes" (Callary et al., 2014; Trudel et al., 2010). For example, in their review of coach education effectiveness, Trudel et al. (2010) reviewed three categories of programs: small-scale (e.g., 75-minute workshop, Smith, Smoll, & Cumming, 2007), University-based (e.g., 3-year undergraduate program, Demers, Woodburn, & Savard, 2006), and large-scale (e.g., 16-hour workshop, Campbell & Sullivan, 2005). Although coach education has typically been the responsibility of national coaching accreditation bodies (e.g., Coaching Association of Canada and UK Coaching) in partnership with national sport federations, the movement to professionalize sport coaching has led to increased attention placed on the development of 'Sport Coaching Bachelor Degrees' governed by universities (Lara-Bercial et al., 2016). Given that LCT approaches are more complex and often more time-consuming than traditional instructor-centered approaches (Weimer, 2013), the length of a coach education program will invariably influence the breadth and depth of LC integration. However, we believe there are opportunities and challenges that need to be considered with both short courses and extended programs. For example, although extended programs will be more conducive to implementing the more time-consuming recommendations, such as developing learning skills and helping coaches to recognize their view of learning and to understand LCT (i.e., rather than achieving this through a short learning activity, this could be included as part of an entire course offered within the Bachelor degree), they will require additional effort and resources to ensure both the prolonged interest and engagement of students, as well as the design of an assessment protocol that aligns itself with LCT approaches, while meeting the requirements of the broader academic institution and post-secondary education system (Tagg, 2003; Weimer, 2013). Alternatively, given the time constraints of short courses, CDAs should consider condensed adaptations of certain recommendations, as well as ways to extend the LCT approaches beyond the "in-class" time. For example, reflective activities or learning resources can be sent to coaches prior to short courses to help them become aware of their cognitive structures and to learn about LCT; these resources can also collect information to support the facilitator in knowing the coaches, and making the material more relevant and ultimately the course more impactful.

Conclusion

The purpose of this Insights paper was to present a theoretically robust and empirically supported collection of recommendations in support of LC coach education. More specifically, by integrating the LC literature (e.g., APA, 1997; McCombs & Miller, 2009), a practical LCT framework (Blumberg, 2009), and previous recommendations presented in the coach education literature (e.g., Nelson et al., 2013; Trudel et al., 2013), we have offered 10 practical recommendations to help CDAs with LC program design, facilitation and coach engagement. Like learning and sport coaching, the subtleties of constructivist-informed LC approaches are complex. As such, Light and Wallian (2008, p. 402) aptly pointed out, "as a theory of learning, constructivism cannot be reduced to step-by-step, cookbook instructions for teaching". Indeed, these LCT recommendations are not intended to be offered as a "compilation of one-size-fits-all strategies" (McCombs & Miller, 2009, p. 121) that will invariably lead to effective LC practices and impactful coach education. We encourage CDAs to reflect on how each of the recommendations presented above make sense to their current realities and programming objectives, and more broadly how the LCT framework may be used as an 'overarching conceptual

framework' to guide their programming vision (Horgan & Daly, 2015). Finally, coaching scholars have recently been accused of "uncritically recycl[ing] learning theories from other domains and present[ing] idealistic representations and prescriptions for practice" (Stodter & Cushion, 2017, p. 322). To return to Weimer's (2013) analogy presented at the onset of this Insights paper, we hope our efforts to gather and organize recommendations using the LC theory have indeed been *critical* and *realistic*, and have helped to assemble together a few additional pieces of the jigsaw puzzle that is the coach education literature.

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Limitations and Future Research

There are some important limitations to this research project that warrant discussion. First, despite being a primary source of data in case study research (Merriam, 1998; Stake, 1995), there were no direct observations made or field notes taken throughout the course of the project. Given the timing of the project and the progressive focusing (Parlett & Hamilton, 1972) that took place during the early stages of data collection, the opportunity to attend the launch of the program in Florida in January 2012 was missed. Although other means were used to acquire firsthand insight on the coaches' and facilitators' experiences (i.e., audio-visual material), observations of the physical setting, activities and interactions, conversation, and subtle factors would have provided additional contextual understanding (Merriam & Tisdell, 2016). Direct observation is also encouraged by Blumberg (2009) when assessing the LC status of a course or program. As discussed in Article 2, although it is an accepted practice (Blumberg, 2009; Blumberg & Pontiggia, 2011), there are limitations to assessing a program based solely on the analysis of documents. Direct observation of the program delivery would increase the ability to asses LCT components specifically related to the role of instructor (Blumberg, 2009). Future LC assessment research is encouraged to incorporate direct observation of the delivery of coach education programs. In general, LC assessment research is strongly advised given the growing LC interest and claims being made by institutions and programs in education (Blumberg, 2016) and coach education (Milistedt, Trudel, Rynne, Ribeiro, & Nascimento, in review). Furthermore, in line with the findings from Article 2 and Article 3, as well as a recent study on LC coach education in Brazil (Milistedt et al., in review), conducting formal assessments allows researchers to examine the degree of congruence between a program's espoused theory and its theory-in-use.

A second limitation of the project is the lack of data gathered in relation to the program's evaluation process. At the time the participants were interviewed, the coaches were preparing for the evaluation, and the PGA of Canada had not yet selected individuals for the role of evaluator. The importance of getting all of the various agents involved in a program to subscribe to the program's underpinning learning principles has been emphasized by coaching scholars (Paquette et al., 2014; Trudel et al., 2013) and discussed throughout this dissertation. Moreover, in light of the important relationship between assessment/evaluation and learning in LCT (Blumberg, 2009; Weimer, 2013), and the limited evidence that shows the potential for evaluators to enhance or diminish the learning experience of coaches in constructivist programs (Paquette et al., 2014), the evaluator plays a critical role in LC programs. As noted in Article 4, McCullick et al. (2009, p. 333) stated, "If the content of a coach education program is good but the means of delivering and learning the content are flawed, the relevancy of the content is minimized". Similarly, it can be argued if the design and delivery of a coach education program is good but the means of evaluating learning are flawed, the program's ability to promote deep learning is minimized. Additional research is needed to better understand the specific role and contribution of evaluators to LC coach education, as well as their cognitive structures, specifically the aspect related to learning and education, such as their learning orientation and perspectives of LCT.

A third limitation pertains to the causal relationship that can be drawn from the findings related to the influence of the participants' cognitive structures on their experiences in the program. 'Causality' is the topic of much debate among constructivist theorists (Parsons, 2010). However, Parsons (2010, p. 84) explained that constructivist researchers should be encouraged to offer "causal-explanatory claims [despite recognizing that] human action never responds to conditions in an automatic push-pull or stimulus-response causal relationship". Causal relationships presented in

constructivist scholarship are sometimes referred to as 'constitutive arguments' (e.g., Wendt, 1999). In relation to the findings presented in this dissertation, the participants' cognitive structures were found to influence their experiences and participation in the program. Both Jarvis (2006, 2007, 2009) and Moon (1999, 2001, 2004) provide a theoretical rationale for the mechanism by which the learners' cognitive structures (or biographies) impacted their learning. Moreover, the findings from this project combined with the discussion above regarding the influence of the learning approaches, dispositions and orientations of the various agents involved in the program creates the foundation for future research to further examine the specific cognitive structural aspects that influence coaches', facilitators', and CDAs' participation in coach education, specifically LC coach education. Future research is also needed to better understand the processes that can be used to help the various agents involved in a program recognize, adapt or manage the specific cognitive structural aspects related to learning. For example, the practical recommendations offered in Article 4 require additional research to increase our understanding of the degree to which tailored interventions can support the transition of ICT views and approaches to learning towards LCT approaches during a coach education program.

Finally, as discussed above, given the emerging role of CDAs (Lafrenière, 2015), additional research is needed to explore their cognitive structures and developmental pathways (Horgan & Daly, 2015), and to further conceptualize their roles and contribution to coach development and coach education (Abraham et al., 2013; Nash & McQuade, 2015). Furthermore, in accordance with the current trends in the Canadian sport system, specifically the additional attention and emphasis being placed on developing a system wide performance sustainability among athletes and coaches, it would seem prudent to devote some careful consideration to the processes and implications of identifying and developing 'next generation' CDAs.

My Learner-Centered Journey

Just as the participants' cognitive structures were found to influence their experiences participating in the design and delivery of the program studied in this dissertation, it would be very remiss of me not take a moment to reflect on the influence of my cognitive structure on this research project and vice versa. Therefore, I would like to include a brief reflection on the LC journey that I have been on throughout the past eight years. It should be noted that writing the LCT CDA composite vignette proved to be a much easier task than writing the other four vignettes presented in Article 3. Of course, it would be natural that after writing the vignettes for the third article that I would be more familiarized and comfortable with the creative writing process. However, it quickly became apparent that my ease in creating the vignette had more to do with the many biographical similarities I shared with the CDAs in the study. I also grew up with a passion for sport that propelled me to participate in a wide range of recreational sports. Among the many sports I dabbled in as a youth, golf received the majority of my attention and time. In fact, it was through golf (and a fortunate rain delay) that I connected with Wendy Jerome, the former Director of the Sport Psychology Undergraduate program at Laurentian University (and one of the most influential people in my life). My passion for golf and coaching led me to becoming a PGA of Canada golf professional during my undergraduate degree at Laurentian. As part of my golf professional certification process, I completed Levels 1-4 of the TCCP presented and discussed in Article 2. I worked as a golf instructor for five years, all the while doing my best to continually integrate what I was learning about sport psychology into my coaching sessions. During that time, I was awarded with three provincial teaching awards. It is now clear to me that my success as a golf instructor was largely attributed to my efforts to be LC, which I believe was strongly promoted in many of the psychology and sport psychology courses I was taking at the time.

As my passion for applied sport psychology grew stronger, I stepped away from golf instruction and focused on graduate studies and my consulting practice. Despite being trained as a quantitative researcher during my Master's degree at Brock University, my consulting work with regional and provincial level athletes was guided by an epistemology more aligned with qualitative traditions. It was not until I arrived in Ottawa and began my doctoral degree that I learned about qualitative research and constructivism. This was a critical moment in my development as a mental performance consultant (MPC). The epistemic principles and learning theories I was learning about deeply resonated with my core beliefs and understandings of what effective interpersonal relationships and consulting was all about. The truth is, looking back at the first few years of my PhD, I could not have been better positioned to learn and develop both as an academic and MPC thanks to the mentoring of my committee members, Pierre Trudel, Penny Werthner, and Diane Culver. These individuals infused the ideals of learner-centeredness and constructivism into seemingly all of their interactions with me and the other members of our research group. As I continued to develop a deeper understanding of the LC literature, my development as a MPC continued to accelerate. I have spent the past five years trialing the vast collection of LCT approaches and strategies offered by many of the authors presented in this dissertation (e.g., Blumberg, 2009; Moon, 2001; Weimer, 2013) with some of our country's top athletes in a variety of contexts, including at the two most recent Olympic Games. Interestingly, it was recently pointed out to me by a colleague that my company's mission statement, "Developing better people and better performers", is reflective of the LC philosophy that is at the core of my consulting efforts.

Beyond my doctoral research and MPC work, I also spent a substantial amount of time working in higher education as a part-time instructor at Carleton University. I taught seven sessions of the same third year Sport and Performance Psychology course between September 2013 and

August 2015. Given my passion for applied sport psychology and teaching, I jumped at the opportunity to teach the course when it was offered to me. I also knew it would be a timely opportunity to experiment with the implementation of the LCT approaches I was immersed in as part of my doctoral research project. I began teaching the course on short notice because the professor who regularly teaches the course experienced unexpected health issues. Given the time of year, the course outline, assignments and course textbook had already been approved, so despite a few LCT approaches related to the delivery of the material and learning activities (i.e., role of the instructor dimension of LCT) that I was able to implement, I would consider the course to have had a low degree of learner-centeredness. Guided by the practical recommendations found in the literature (i.e., Blumberg, 2009; Harris & Cullen, 2010; Weimer, 2002), I began making incremental changes, session by session, towards adopting additional LCT approaches. Despite leading to overall high levels of student achievement and satisfaction ratings, my LCT efforts were met with considerable resistance. The primary source of resistance came from the chair of the department who did not agree with the approaches being used and the resulting high success rate of students. Following Blumberg's (2009) recommendations, I created open and ongoing dialogue with the chair, which included submitting my proposed course outlines early to provide her with an opportunity to help shape the approaches. I also documented all changes and outcomes of the LCT approaches as part of my semester review of teaching. In spite of these efforts, the chair appeared to be fixed on the high success rate of students, which ironically she referred to on countless occasions as a "problem". She continued to push for additional "rigour and research-based practices". I worked tirelessly to satisfy her requests; however, the trend of high success rates continued. A follow-up meeting took place, this time with a clear message that if I couldn't find a way to "lower the marks" the department would be forced to "find someone who could".

My final attempt to create a LC course that satisfied the department occurred in Spring 2015. See Appendix O for my final course outline used for the 2015 Spring/Summer session. The LCT approaches integrated into the design, delivery and evaluation of the course aimed at providing students with many opportunities to deeply engage with the content and, in turn to critically reflect on how the content related to their current understanding of psychology and more broadly to their objectives post-graduation. The final assignment, Course Reflection and Review of Learning (see Appendix O), provided me with insight into the students' perspectives on the LCT approaches. A few themes emerged from the reflections I received throughout the seven sessions I taught the course. These themes included greater workload, clear understanding of the learning objectives and course requirements, and intrinsic motivation to learn. The majority of students stated that this course required a workload greater than any other course they had participated in to that point. The average A+ student wrote well over 35 pages of deeply reflective, well-supported, and APA-formatted assignments. I was surprised by the number of students who elected to put the amount of work in necessary to pursue an A+. Next, the students noted the benefit of having a clearly articulated grading/evaluation pathway. Within the outline, a comprehensive "Grading framework" was developed to provide a clear understanding of the specific learning objectives and requirements for achieving a given letter grade for each assignment. The outline also included three pages of "Questions to consider" for each assignment to support their reflection and to promote deep learning. A final theme was the students' overwhelming appreciation for how personally relevant and meaningful the course/content was in light of their personal and academic circumstances. According to Harris and Cullen (2010, p. 60):

Building community is perhaps the most important task for the learner-centered leader.

Teachers build community by showing concern for the learning of their students, by making

themselves accessible to their students, by creating relevance to learning situations and creating intrinsic motivation for learning.

I worked very hard to create a community of learners with each sessional group of students I taught, and I was very pleased and proud to see the students' appreciation as well as their consistent level of engagement and commitment to their achievement of learning outcomes. Unfortunately, the department chair did not share my sentiments. She continued to create resistance and to push for ICT change in preparation for the Fall 2015 semester. I no longer had the motivation to see my efforts to promote student success be undermined by bureaucratic agendas camouflaged as promoting innovation, learning and student achievement, so I decided to resign at that time from my part-time instructor position. I remember thinking to myself that I may look back on this in a few years and realize my efforts were naïve or lacked practical sensibility. Two years have gone by since I last looked at my course outline (Appendix O), and despite a few minor changes I would make to it given my expanded understanding of the literature, I am reminded of the pragmatic implications and challenges that arise when opposing paradigms, as tenacious and invisible as they are (Harris & Cullen, 2010), are confronted.

Conclusion

Even a limited review of the respective literatures allows for an appreciation of the complexities of sport coaching (e.g., Jones, Edwards, & Viotto-Filho, 2016; Lyle & Cushion, 2017), learning (e.g., Jarvis, 2009; Moon, 2001), and education (Paulsen, 2014; Schiro, 2013). As such, when these three concepts are merged into the singular study of LC coach education, there is no surprise that it will be fraught with complexity. Thankfully, the LC literature is able to arm researchers and practitioners with decades of evidence to face and overcome these complexities. In

recognition of the LC undertone of the coach education literature and the potential contribution of LC theory to inform research and practice, Paquette et al., (2014, p. 84) proposed:

What obstacles can be expected when adopting learner-centered approaches?

If coach education should indeed be more 'learner-centered', the following questions will require additional research: What changes when coach education becomes learner-centered? How can coach educators systematically develop and assess learner-centered programs?

The findings of this doctoral dissertation provide some answers to these questions. First, using Weimer's (2002) framework, as presented in Article 1 and discussed throughout the entire dissertation, there are five dimensions that change when coach education becomes LC: the function of content becomes triggering meaningful engagement for learning in the present and future; the role of the instructor (i.e., facilitator) becomes prioritizing the facilitation of coaches' learning and their achievement of learning outcomes within an organized and accommodating learning environment; the responsibility for learning resides with the coach who is supported to become an independent and self-directed lifelong learner; the purposes and processes of assessment shift to promoting additional learning by integrating assessment into the learning process and using authentic assessment; finally, strategies to promote the balance of power are carefully considered by CDAs and facilitators who recognize the importance of cultivating coaches' intrinsic motivation.

Second, by using Blumberg's (2009) LCT framework highlighted in Article 1, Article 2 and the additional findings, CDAs are presented with a comprehensive tool and procedural guidelines both to systematically develop and assess LC coach education. In addition to Blumberg's framework, Cullen and colleagues' (2012) Rubric for Evaluating Curricular Design and the ALCP (see McCombs & Miller, 2007) were suggested in Article 2 as alternative tools for the assessment of LC beliefs and practices. Moreover, Article 4 provides CDAs with the following 10 practical

recommendations to support LC coach education: become a LC leader; use a variety of learning strategies to achieve learning outcomes; deliberately develop learning skills; unite assessment with learning; recruit facilitators, not instructors; provide LC facilitator training; regularly assess facilitator performance; help coaches to recognize their view of learning and to understand LCT; prioritize making content personally meaningful for coaches; and empower coaches with increased autonomy and learning options.

Finally, the findings and general discussion of this dissertation provide both theoretical insight and empirical support for the varied obstacles that can be expected when adopting LC approaches. As recognized in Article 2, Article 3 and the CDA composite vignette, the predominant obstacle was getting all of the various agents involved in the program design and implementation to embrace a constructivist view of learning and LCT approaches. This included the CDAs, facilitators, coaches, and the consultants invited to contribute to the program design. Arguably, the primary challenge in overcoming this obstacle, as discussed in Article 4 and throughout the general discussion, is helping these agents to develop an awareness of their cognitive structures, more specifically their views of learning and the implications of these views with respect to their participation in the program. Another obstacle related to the quantity and selection of appropriate content within LC programs: a lack of content was shown not to be conducive to the facilitation of coach learning (Article 2); perceptions of too much content created pressure for some coaches and facilitators (Article 3); and CDAs reported content selection (quality and quantity) as a primary challenge in designing a LC program. A final obstacle revealed and discussed in this dissertation related to the additional time and effort required to carefully design and deliver LC coach education. Indeed, the CDAs' and facilitators' roles become more complex.

In addition to providing some answers to the questions posed by Paquette et al., (2014), this doctoral dissertation contributes to the coach development literature by increasing our understanding of CDAs, their cognitive structures, developmental pathways, and their experiences designing LC coach education. Moreover, given the important of sharing LCT practices (Blumberg, 2015; Cullen et al., 2013; McCombs & Miller, 2000), it provides the literature with an example of how LCT approaches can be successfully integrated into coach education. The body of evidence that underpins LCT approaches and that has amassed from studying LCT in a variety of fields is compelling. In line with a recent call to action delivered by McCombs (2014) to educational psychologists and researchers, our responsibility as coaching scholars is now to educate other professionals, including fellow researchers, CDAs, policymakers, and coaches both of the evidence that exists and the principles and practices that best support coach learning, and ultimately the development of effective coaches who are able to positively impact the sport community. I am hopeful that this doctoral dissertation, including the articles contained within it, is viewed as a respectable and contributive analysis of LCT, and in turn is able to stimulate a broader interest and adoption in LC coach education.

Statement of Contribution

I, Kyle Paquette, was responsible for collecting and analyzing all data, and for writing all parts of this dissertation. My supervisor, Dr. Pierre Trudel, reviewed, edited, and helped to organize every part of this dissertation, including the four articles. The interview guides were edited following my dissertation proposal defense, thanks to the valuable feedback provided by Dr. Diane Culver and Dr. Penny Werthner. In the third article, Tiago Duarte provided important feedback that led to the use of composite vignettes to represent the data. He also reviewed and helped to edit the composite vignettes, including the one presented in the additional findings, as well as the article as a whole. Glenn Cundari, representing the PGA of Canada, provided ongoing support through the interpretive process, and he reviewed and provided feedback for the second and third articles, and the CDA composite vignette in the additional findings.

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Appendices

Appendix A

Case Study Approach

CDC Program

Program Design and Coordination

7 Coach Development Administrators (CDAs) (2 interviews per CDA)

Program Delivery

6 Learning Facilitators (1 interview per facilitator)

Program Participation

10 (of 11) coaches (1 interview per coach)

Interviews
Document Analyses
Coach survey
Photos and Videos

Total number of interviews: 30

Appendix B

Timeline for Data Gathering

November 2011: Approval granted from Research Ethics Board

Dec. 2011-Jan. 2012: Documents received by PGA of Canada and reviewed

Early January 2012: Pilot interviews and survey Mid-January 2012: Invitation emails sent to CDAs

Late January 2012: CDC program launch in Port St. Lucie, Florida Early February 2012: Invitation emails sent to facilitators and coaches

February 2012: First interviews with CDAs

April-May 2012: Interviews with facilitators and coaches

June-July 2012: Second interviews with CDAs

Appendix C

Coach Survey Questions

Part 1: Demographics

- 1) Gender
 - a. Male
 - b. Female
- 2) Age

Part 2: Education/Certification

- 3) What is your highest level of formal education?
 - a. Grade 8
 - b. High School Diploma
 - c. College Diploma or Certificate
 - d. Bachelor's Degree
 - e. Master's Degree
 - f. Doctoral Degree
- 4) What was your field of study
 - a. Golf Management
 - b. Education or Physical Education
 - c. Kinesiology
 - d. Other (comment)
- 5) In which context(s) do you have a "trained" and/or "certified" status? (select all that apply)
 - a. TCCP Level 1
 - b. TCCP Level 2
 - c. TCCP Level 3
 - d. TCCP Level 4
 - e. NCCP Instructor Beginner Golfers
 - f. NCCP Instructor Intermediate Golfers
 - g. NCCP Instructor Advanced Golfers
 - h. NCCP Coach New Competitor
 - i. NCCP Coach Development Competitor
 - j. NCCP Coach High Performance Competitor
- 6) Do you have any additional golf coaching and/or instructing certification?
 - a. Yes
 - b. No
- 7) If "Yes", please indicate the certification(s)
- 8) Do you intend on taking any additional coaching and/or instructing certification in the future?
 - a. Yes
 - b. No
 - c. Undecided
- 9) If "Yes", please select all that apply
 - a. NCCP Instructor Beginner Golfers
 - b. NCCP Instructor Intermediate Golfers

- c. NCCP Instructor Advanced Golfers
- d. NCCP Coach New Competitor
- e. NCCP Coach Development Competitor
- f. NCCP Coach High Performance Competitor
- 10) Do you have coaching and/or instructing certification(s) in other sports?
 - a. Yes
 - b. No
- 11) If "Yes", please indicate the certification(s) and corresponding sport(s)

Part 3: Sport Participation Background

- 12) Do you have golf playing experience?
 - a. Yes
 - b. No
- 13) If "Yes", how old were you when you started playing golf?
- 14) If "Yes", what is your highest level of competition in golf?
 - a. Local
 - b. Regional
 - c. Provincial
 - d. National
 - e. International
 - f. Did/do not compete
- 15) Do you have playing experience in other sports?
 - a. Yes
 - b. No
- 16) If "Yes", please indicate the sport(s)
- 17) If "Yes", what is your highest level of competition in other sport(s)?
 - a. Local
 - b. Regional
 - c. Provincial
 - d. National
 - e. International
- 18) How many years have you coached golf?
- 19) How many years have you instructed golf?
- 20) Do you still instruct golf?
 - a. Yes
 - b. No
 - c. Undecided
- 21) Have you coached and/or instructed other sports?
 - a. Yes
 - b. No
- 22) If "Yes", please indicate which sport(s)
- 23) If "Yes", how many years have you coached and/or instructed other sports?

Part 4: Demographics of Athletes and Coaching Practices

- 24) What is the age range of the majority of the individuals you work with?
 - a. < 10

- b. 10 19
- c. 20 29
- d. 30 39
- e. 40 49
- f. 50 59
- g. > 59
- 25) Gender
 - a. Male
 - b. Female
 - c. Both
- 26) What best describes the individuals you coach?
 - a. Athletes
 - b. Students
 - c. Clients
 - d. Other
- 27) How many individuals to you coach on average per year?
- 28) What is the average handicap of the individuals you coach?
- 29) What type of golfing do the majority of the individuals you coach participate in?
 - a. Recreational
 - b. Competitive
 - c. Business-oriented
- 30) What is the average duration of your coaching relationship with the individuals you coach? (indicate average number of sessions)
- 31) On average, how frequently do you coach/instruct a client?
 - a. Less than once a month
 - b Once a month
 - c. Twice a month
 - d. Three time a month
 - e. Once a week
 - f. Twice a week
 - g. Three time a week
 - h. More than three times a week
- 32) On average, how long is a typical coaching session?
- 33) On average, how long do you spend preparing for a coaching session? (in minutes)
- 34) On average, how long do you spend reflecting on a coaching session afterwards? (in minutes)

Part 5: Sources of Coaching Knowledge

- 35) Please indicate the degree to which the following of potential sources of knowledge have positively impacted your learning to coach. (Not a source of my knowledge never exposed to it; not a source of my knowledge exposed, but no impact; minimal impact; moderate impact; significant impact)
 - a. NCCP/TCCP course, clinic or workshop
 - b. Coaching course, clinic or workshop (non-NCCP/TCCP)
 - c. Sport or coaching conference
 - d. Having a coach mentor

- e. Being a coach mentor
- f. Reading (books, magazines, etc.)
- g. Watching videos
- h. Watching professional golf (in person, on TV or online)
- i. Observing coaches
- j. Observing athletes
- k. Playing golf
- 1. Playing a sport other than golf
- m. Coaching golf
- n. Coaching a sport other than golf
- o. Interacting with coaches in person
- p. Interacting with coaches online
- q. Interacting with athletes in person
- r. Interacting with athletes online
- s. Interacting with sport scientists in person
- t. Interacting with sport scientist online
- u. Golf Canada website
- v. PGA of Canada website
- w. Using a personal or reflective journal
- x. Deliberate reflection

Part 6: Knowledge of NCCP and LTPD

- 36) What best describes your awareness of golf's Long-Term Player Development model?
 - a. I've never heard of it
 - b. I've heard of it, but I don't really know what it's about
 - c. I've heard of it and am somewhat familiar with the principles
 - d. I've heard of it and am very familiar with the principles
 - e. I've heard of it and implement the principles into my coaching
- 37) According to golf's Long-Term Player Development model, within what stage of development are the majority of the individuals you coach?
 - a. Active Start
 - b. FUNdamentals
 - c. Learn to Play
 - d. Train to Play
 - e. Learn to Compete
 - f. Train to Compete
 - g. Train to Excel
 - h. Excel
 - i. Active for Life
 - i. Not sure
- 38) According to the NCCP, within what stream are the majority of individuals you coach?
 - a. Community
 - b. Instruction
 - c. Competition
 - d. Not sure
- 39) According to the NCCP, within what context are the individuals you coach?

- a. Special Olympics
- b. Community Sport
- c. Instructor Beginner Golfers
- d. Instructor Intermediate Golfers
- e. Instructor Advanced Golfers
- f. Coach New Competitor
- g. Coach Development Competitor
- h. Coach High Performance Competitor
- i. Not sure
- 40) How confident are you in your ability to explain golf's Long-Term Player Development model to another coach or instructor?
 - a. Not Confident
 - b. Moderately Confident
 - c. Highly Confident
 - d. Completely Confident
- 41) How confident are you in your ability to explain golf's new NCCP programming to another coach or instructor?
 - a. Not Confident
 - b. Moderately Confident
 - c. Highly Confident
 - d. Completely Confident

Appendix D

CDA Interview Guide #1

Part 1: Biographical information

- 1) What is your age?
- 2) Were you active in sports before becoming a CDA? What sport(s)? The most important and how many years, at what level?
- 3) From where does your interest in sport come? What inspired this interest?
- 4) From where does your interest in coach development come? What inspired this interest?
- 5) Before being a CDA, were you involved in coaching? If so, did you follow any coach training? Nature: number of hours; provided by whom? (NCCP, association, etc.)
- 6) Are you still involved in coaching?
- 7) Do you intend to keep coaching?
 - a. For how long?
 - b. At what level?
 - c. Why?
- 8) What type of formal education do you have?
- 9) What is your primary job now? Please describe.
- 10) How did you get involved with your sport organization?
- 11) How have you learned to be a CDA?
- 12) What do you continue to learn?

Part 2: Perceptions of coach development

- 1) In your opinion, what are the differences between golf coaches and golf instructors or teachers?
- 2) How does this have impact on the general public looking to learn how to play golf?
- 3) How do you view coach development?
- 4) What would you recommend to coaches looking to continue their development?

Part 3: Collaboration with Golf Canada/PGA of Canada

- 1) Can you discuss the collaboration between Golf Canada and the PGA of Canada as it relates to coach development?
- 2) Typically, coach development and coach education are the responsibilities of the NSO, what are the advantages and disadvantages of collaborating with another organization in these initiatives?

Part 4: Perceptions of the program

- 1) Tell me about your experiences contributing to the design of the CDC program?
- 2) What was your specific involvement?
- 3) In your opinion, what are the program's primary intentions?
- 4) In your mind, what is a competency-based, learner-centered program?
- 5) How do you believe the CDC program integrates a competency-based, learner-centered approach?
- 6) Please explain how you see the similarities and differences with regard to content, structure, and delivery between the old NCCP and the CDC program.

- 7) What was the process of selecting the messengers (i.e., facilitators)?
 - a. What is your opinion of the role of the LF within the program?
 - b. Please tell us about your experiences training the LFs.
 - c. Can you comment about the length of the LF training?
- 8) Do you believe the new program effectively regroup coaches with similar previous experiences (biographies/cognitive structures)?
- 9) Is there an online component to the new modules?
- 10) How is peer interaction/networking encouraged within the new modules?
- 11) What can be done to improve the impact and effectiveness of the CDC program?
- 12) Any final thoughts you would like to share?

Appendix E

CDA Interview Guide #2

Additional insight into CDC content, delivery strategies, and evaluation

- 1) Tell me about the content and material included in the CDC program.
 - a. Where did it come from?
 - b. How was it created?
 - c. How did you decide what to include and what to exclude?
 - d. Any other thoughts related to content?
- 2) Tell me about the delivery strategies built into the CDC program.
 - a. Was there a guiding philosophy for the delivery of program?
 - b. What were the intended delivery strategies and style of delivery?
 - c. Where did these guiding principles and strategies come from?
 - d. Were these principles and strategies adhered to by the facilitators?
 - e. Any other thoughts related to program delivery?
- 3) Tell me about the evaluation process of the CDC program.
 - a. Where did it come from?
 - b. What are the intentions or objectives of the evaluation process?
 - c. How was it created?
 - d. Do you foresee any challenges or issues with the evaluation process?
 - e. Any other thoughts related to the evaluation process?

Appendix F

Learning Facilitator Interview Guide

Part 1: Biographical information

- 1) What is your age?
- 2) Were you active in sports before becoming a LF? What sport(s)? The most important and how many years, at what level?
- 3) From where does your interest in sport come? What inspired this interest?
- 4) From where does your interest in coach development come? What inspired this interest?
- 5) Before being an LF, were you involved in coaching? If so, did you follow any coach training? Nature: number of hours; provided by whom? (NCCP, association, etc.)
- 6) How many years of experience did you have as a coach before becoming a course conductor or an LF?
- 7) Are you still involved in coaching?
- 8) Do you intend to keep coaching?
 - a. For how long?
 - b. At what level?
 - c. Why?
- 9) What type of formal education do you have?
- 10) What is your primary job now? Please describe.
- 11) Were you a LF in the old NCCP? If yes, how many years?
- 12) Are you an LF in any other NCCP context? If yes, which context? How many years?
- 13) Why did you become an LF?

Part 2: Perceptions of coach development

- 1) In your opinion, what are the differences between golf coaches and golf instructors or teachers?
- 2) How do you view coach development?
- 3) What would you recommend to coaches looking to continue their development?

Part 3: Perceptions of LF training

- 1) What is your opinion of the training you participated in to become a facilitator?
 - a. What was the process?
 - b. What did you learn?
 - c. Was the content useful for facilitating the CDC modules for which you were trained?
 - d. Can you comment about the length and timing of the training?
 - e. Right after the training, how confident were you to facilitate this module?
 - f. Have you used the on-line community of practice

Part 4: Perceptions of the program

- 1) In your opinion, what are the programs primary intentions?
- 2) What is your opinion of the role of the LF within the CDC program?
- 3) In your mind, what is a competency-based, learner-centered program?
- 4) How do you believe the CDC program integrates a competency-based, learner-centered approach?

- 5) Have you been evaluated?
 - a. If yes, can you please describe your opinion of the process?
 - b. If no, what are your perceptions and potential anxieties?
- 6) Please explain how you see the similarities and differences with regard to content, structure, and delivery between the old NCCP and the new CDC program.
- 7) What can be done to improve the impact and effectiveness of the CDC program?
- 8) Any final recommendations you would like to share?

Appendix G

Coach Interview Guide

Part 1: Learning to coach

- 1) Why did you want to become a coach?
- 2) How did you learn to become a coach?
- 3) What had the most impact in your development as a coach?
- 4) Since the time you started coaching do you feel that you have become a more experienced coach? If so, how?
- 5) Were there any individuals that had impact on your development as a coach? If so, who and how?
- 6) Has your formal coach education/certification influenced how you coach? If so, how?
- 7) Where do you get your coaching resources?
- 8) Have you ever been mentored?

Part 2: Coaching beliefs and practices

- 1) In your opinion, what are the differences between coaches and instructors or teachers?
- 2) How does this have impact on the general public looking to learn how to play golf?
- 3) How would you describe coach development?
- 4) What would you recommend to coaches looking to continue their development?
- 5) What is your coaching philosophy?
- 6) What are some of your primary coaching objectives when working with a client?
- 7) How do feel about sharing knowledge or ideas with other coaches? Do you do it?
- 8) The following questions are designed to get a better idea of how you coach
 - a. How do you plan for training sessions? Do you ever take time to reflect on training sessions with your clients?
 - b. What are some of your typical/preferred coaching methods/strategies? Can you please describe them?
 - c. What is your view regarding yearly training plans? Do you use them with your clients?
 - d. Are you familiar with the four pillars of performance (i.e., technical, tactical, mental, physical)? Is so,
 - i. Do you view them all as being equally important in order to be successful in golf? Why?

Part 3: Perceptions of the program

- 1) What is your opinion of the CDC training you received?
 - a. What was the process?
 - b. What were your thoughts on the content and material delivered?
 - c. Can you describe how the content and material was delivered/facilitated?
 - d. Was it a good learning experience? Why or why not? Please give examples.
 - e. Do you feel confident implementing what you learned from these modules?
 - f. Can you comment about the length and timing of the training?
 - i. Was the amount of training time adequate?
 - ii. Are you willing to spend more time training?

- iii. How was the timing (evening vs. weekend) what is your preference?
- g. Have you kept in contact with the coaches who took the training at the same time? Examples?
- 2) What is your opinion of the role of the learning facilitator(s)?
- 3) In your mind, what is a competency-based, learner-centered program?
- 4) How do you believe the CDC program integrates a competency-based, learner-centered approach?
- 5) Please explain how you see the similarities and differences with regard to content, structure, and delivery between the old NCCP and the new CDC program.
- 6) What can be done to improve the impact and effectiveness of the CDC program?
- 7) Any final recommendations you would like to share?

Appendix H

Ethics Approval Notice

File Number: H10-11-03 Date (mm/dd/yyyy): 11/17/2011



University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Pierre	Trudel	Health Sciences / Human Kinetics	Supervisor
Kyle	Paquette	Health Sciences / Human Kinetics	Student Researcher

File Number: H10-11-03

Type of Project: PhD Thesis

Title: An Examination of Golf Canada and the PGA of Canada'S Large-scale Coach Education Program

Approval Date (mm/dd/yyyy) Expiry Date (mm/dd/yyyy) Approval Type

11/17/2011 11/16/2012 Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A

Appendix I

CDA Invitation Email

Hello Golf Administrator,

You are invited to participate in research examining golf's coach education program (i.e., NCCP Competition stream) and the various individuals involved in its creation, delivery, and implementation. Your help will not only help me to complete my PhD at the University of Ottawa, but you will be contributing towards scholarly knowledge in the field of coaching science.

As a participant, you will be asked to take part in one interview lasting approximately 60 minutes. The interview will be audio-taped and will examine (1) your biography (i.e., process of becoming a coach development administrator and sources of knowledge), (2) your perceptions of coach development, (3) the collaboration between your organization and Golf Canada or the PGA of Canada, and (4) your perceptions of the NCCP Competition stream coach education program. Possible benefits of participation include receiving coaches' and course facilitators' feedback regarding their perceptions of the program and recommendations to help improve the impact and effectiveness of the program moving forward.

Please keep in mind that all of your responses are extremely valuable to this research project, and therefore I would sincerely appreciate if you consider taking part. If you are interested, please reply to confirm your participation, and we can arrange a day, time and location that convenient and agreeable to you for the interview.

Thank you in advance,

Kyle

Appendix J

Learning Facilitator Invitation Email

Hello Course Facilitator,

You are invited to participate in research examining golf's coach education program (i.e., NCCP Competition stream) and the various individuals involved in its creation, delivery, and implementation. Your help will not only help me to complete my PhD at the University of Ottawa, but you will be contributing towards scholarly knowledge in the field of coaching science.

As a participant, you will be asked to take part in one interview lasting approximately 60 minutes. The interview will be audio-taped and will examine (1) your biography (i.e., process of becoming a course facilitator), (2) your perceptions of coach development, facilitator training and the NCCP Competition stream program, and (3) recommendations you might have for Golf Canada and the PGA of Canada to help improve the impact and effectiveness of the program. Possible benefits of participation include having a better understanding and appreciation of Golf Canada and the PGA of Canada's large-scale coach education program. You may also benefit from receiving coaches' feedback regarding their perceptions of the program and recommendations to help improve the impact and effectiveness of the program moving forward.

Please keep in mind that all of your responses are extremely valuable to this research project, and therefore I would sincerely appreciate if you consider taking part. If you are interested, please reply to confirm your participation, and we can arrange a day, time and location convenient and agreeable to you for the interview.

Thank you in advance,

Kyle

Appendix K

Coach Invitation Email

Hello Golf Coach,

You are invited to participate in research examining golf's coach education program (i.e., NCCP Competition stream) and the various individuals involved in its creation, delivery, and implementation. As coaches of Golf Development Centers (GDCs), your feedback is very important as our current understanding of the profile of golf coaches is extremely limited, and any information you provide may help to enhance the quality and effectiveness of the program moving forward.

As a participant, you will be asked to complete an online survey and take part in one interview. First, the survey (link attached below) will be used to examine (1) your biography (i.e., process of becoming a coach) and (2) current coaching practices and beliefs, and will take approximately 30 minutes to complete. Approximately a month following the completion of the survey, you will be invited to participate in an audio-taped interview (lasting approximately 60 minutes) that, in addition to providing a more in-depth investigation of the themes targeted in the survey, will examine (1) your perceptions of the NCCP Competition stream program, (2) the perceived impact of the program on your development, (3) recommendations you have for Golf Canada and the PGA of Canada to help improve the impact and effectiveness of the program, and (4) information about your continued learning and development following your participation in the program.

Please keep in mind that all of your responses are extremely valuable, and therefore I would sincerely appreciate if you completed the entire survey.

Thank you in advance,

Please click on the link below to complete the survey.

http://www.surveymonkey.com/s/FHR5XYD

Kyle

Appendix L

Coach Online Information and Consent Form

Project Title:

An examination of Golf Canada and PGA of Canada's large-scale coach education program

Investigators:

Kyle Paquette, MA
Pierre Trudel, PhD
PhD Candidate
Research Supervisor
School of Human Kinetics
University of Ottawa
University of Ottawa

INVITATION

You are invited to participate in the abovementioned research study conducted by PhD candidate Kyle Paquette and Dr. Pierre Trudel of the University of Ottawa. The purpose of the study is to examine, from conceptualization through delivery, Golf Canada and the PGA of Canada's large-scale coach education program (i.e., NCCP Competition stream).

WHAT'S INVOLVED

As a participant, you will be asked to complete an online survey and take part in one interview. First, the survey will be used to examine (1) your biography (i.e., process of becoming a coach) and (2) current coaching practices and beliefs, and will take approximately 30 minutes to complete. Approximately a month following the completion of the survey, you will be invited to participate in an audio-taped interview (lasting approximately 60 minutes) that, in addition to providing a more in-depth investigation of the themes targeted in the survey, will examine (1) your perceptions of the NCCP Competition stream program, (2) the perceived impact of the program on your development, (3) recommendations you have for Golf Canada and the PGA of Canada to help improve the impact and effectiveness of the program, and (4) information about your continued learning and development following your participation in the program.

POTENTIAL BENEFITS AND RISKS

Your feedback is very important as it may help enhance the quality and effectiveness of the program moving forward. Possible benefits of participation include having a better understanding and appreciation of Golf Canada and the PGA of Canada's large-scale coach education program as well as additional insight into golf's Long-Term Player Development and Coach Development frameworks. There are no known risks associated with participation in this study.

CONFIDENTIALITY

The information that you share will remain strictly confidential. Please note that while SurveyMonkey stores collected data indefinitely on their protected servers, it remains private and confidential, and is accessed only by the researchers, Kyle Paquette or Dr. Pierre Trudel. Furthermore, SSL (Secure Sockets Layer) encryption is used for the secure transfer of data. SSL it is a protocol initially developed for transmitting private documents or information via the Internet.

It means that the survey pages will be safely encrypted during transmission. Please be aware that if you choose to complete this survey in a public location there is the risk that someone may be able to see your responses over your shoulder. Please be mindful of your privacy by choosing to complete this survey in a location where you are comfortable with your surrounding level of privacy.

The data and analyses of the data will be kept at the University of Ottawa in both Kyle Paquette and Dr. Pierre Trudel's locked offices on password protected computers, and will be kept for ten years beginning once all data has been collected. At the end of the ten years all the data will be deleted or destroyed

VOLUNTARY PARTICIPATION

Your participation in this research is voluntary and you are free to withdraw or refuse to answer any questions at any time and without any negative consequences.

PUBLICATION OF RESULTS

The results of this study may be published in academic and professional journals, and presented at conferences. Feedback about this study will be available through Kyle Paquette at the phone number and email address given above. At the conclusion of the survey you will be asked if you would like to receive a summary of the results. To be eligible to receive a summary of the results, you must submit your contact information at the end of the survey. Giving this information is voluntary. This information will not be associated with your responses to the survey, and will not be kept after you have received the summary of the results.

CONTACT INFORMATION AND ETHICS

If you have any questions about this study or require further information, please contact Kyle Paquette or Dr. Pierre Trudel using the contact information provided above. If you have any comments or concerns about your rights as a research participant, please contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 159, Ottawa, ON K1N 6N5 Tel.: (613) 562-5841 Email: ethics@uottawa.ca

CONSENT

I agree to participate in this study described above. I have made this decision based on the information I have read in this Information-Consent Letter. I understand that clicking on "next" will be interpreted as my consent.

be interpreted as my co	ent.	
(Next page)		
If I choose to withdraw related to me collected	om the study, I give my permission for the researchers to analyze to until that moment.	he data
[] YES	[] NO	
I will have the opportu	v to re-examine and modify, if necessary, the information that I have	ve

I will have the opportunity to re-examine and modify, if necessary, the information that I have given. That is, at the end of my interview, I will be given the chance to remove or add to any portions of the interview. I will also receive a copy of my interview transcript and will be able to make additional changes before analysis begins.

I would like to receive	e the material:		
[] via e-mail	or	[] hard-copy traditional mail	
E-mail address:		or	
Mailing address:			

Please note that no additional security measures will be taken during this exchange of information. That is, the material will be exchanged as a regular e-mail attachment or in a regular standard letter mail service through Canada Post.

Appendix M

CDA Information and Consent Form

Project Title:

An examination of Golf Canada and PGA of Canada's large-scale coach education program

Investigators:

Kyle Paquette, MA
Pierre Trudel, PhD
PhD Candidate
Research Supervisor
School of Human Kinetics
University of Ottawa
Pierre Trudel, PhD
Research Supervisor
School of Human Kinetics
University of Ottawa

INVITATION

You are invited to participate in the abovementioned research study conducted by PhD candidate Kyle Paquette and Dr. Pierre Trudel of the University of Ottawa. The purpose of the study is to examine, from conceptualization through delivery, Golf Canada and the PGA of Canada's large-scale coach education program (i.e., NCCP Competition stream).

WHAT'S INVOLVED

As a participant, you will be asked to take part in two interviews each lasting approximately 60 minutes. The interviews will be audio-taped and will examine (1) your biography (i.e., process of becoming a coach development administrator and sources of knowledge), (2) your perceptions of coach development, (3) the collaboration between your organization and Golf Canada or the PGA of Canada, and (4) your perceptions of the NCCP Competition stream coach education program.

POTENTIAL BENEFITS AND RISKS

Possible benefits of participation include receiving coaches' and learning facilitators' feedback regarding their perceptions of the program and recommendations to help improve the impact and effectiveness of the program moving forward. There are no known risks associated with participation in this study.

CONFIDENTIALITY

The information that you share will remain strictly confidential. The data and analyses of the data will be kept at the University of Ottawa in both Kyle Paquette and Dr. Pierre Trudel's locked offices on password protected computers, and will be kept for ten years beginning once all data has been collected. At the end of the ten years all the data will be deleted or destroyed.

VOLUNTARY PARTICIPATION

Your participation in this research is voluntary and you are free to withdraw or refuse to answer any questions at any time and without any negative consequences.

PUBLICATION OF RESULTS

The results of this study may be published in academic and professional journals, and presented at

conferences. Feedback about this study will be available through Kyle Paquette at the phone number and email address given above.

CONTACT INFORMATION AND ETHICS

If you have any questions about this study or require further information, please contact Kyle Paquette or Dr. Pierre Trudel using the contact information provided above. If you have any comments or concerns about your rights as a research participant, please contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 159, Ottawa, ON K1N 6N5 Tel.: (613) 562-5841 Email: ethics@uottawa.ca

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(Participant's signature)

information I have re	n this study described above. I have made this decision based on the d in this Information-Consent Letter. If I choose to withdraw from the for the researchers to analyze the data related to me collected up until the content of the researchers.	the study,
[] YES	[] NO	
given. That is, at the portions of the interv	unity to re-examine and modify, if necessary, the information that I and of my interview, I will be given the chance to remove or add to a ew. I will also receive a copy of my interview transcript and will be ges before analysis begins. I would like to receive the material:	any
[] via e-mail	or [] hard-copy traditional mail	
E-mail address:	or	
Mailing address:		
	ditional security measures will be taken during this exchange of informula the exchanged as a regular e-mail attachment or in a regular standanda Post.	
I,	, agree to participate in this research led be Trudel of the School of Human Kinetics from the Faculty of Heal sity of Ottawa.	y Kyle th

(Date)

Appendix N

Learning Facilitator Information and Consent Form

Project Title:

An examination of Golf Canada and PGA of Canada's large-scale coach education program

Investigators:

Kyle Paquette, MA
Pierre Trudel, PhD
PhD Candidate
Research Supervisor
School of Human Kinetics
University of Ottawa
University of Ottawa

INVITATION

You are invited to participate in the abovementioned research study conducted by PhD candidate Kyle Paquette and Dr. Pierre Trudel of the University of Ottawa. The purpose of the study is to examine, from conceptualization through delivery, Golf Canada and the PGA of Canada's large-scale coach education program (i.e., NCCP Competition stream).

WHAT'S INVOLVED

As a participant, you will be asked to take part in one interview lasting approximately 60 minutes. The interview will be audio-taped and will examine (1) your biography (i.e., process of becoming a learning facilitator), (2) your perceptions of coach development, facilitator training, and the NCCP Competition stream program, and (3) recommendations you might have for Golf Canada and the PGA of Canada to help improve the impact and effectiveness of the program.

POTENTIAL BENEFITS AND RISKS

Possible benefits of participation include having a better understanding and appreciation of Golf Canada and the PGA of Canada's large-scale coach education program. You may also benefit from receiving coaches' feedback regarding their perceptions of the program and recommendations to help improve the impact and effectiveness of the program moving forward. There are no known risks associated with participation in this study.

CONFIDENTIALITY

The information that you share will remain strictly confidential. The data and analyses of the data will be kept at the University of Ottawa in both Kyle Paquette and Dr. Pierre Trudel's locked offices on password protected computers, and will be kept for ten years beginning once all data has been collected. At the end of the ten years all the data will be deleted or destroyed.

VOLUNTARY PARTICIPATION

Your participation in this research is voluntary and you are free to withdraw or refuse to answer any questions at any time and without any negative consequences.

PUBLICATION OF RESULTS

The results of this study may be published in academic and professional journals, and presented at conferences. Feedback about this study will be available through Kyle Paquette at the phone number and email address given above.

CONTACT INFORMATION AND ETHICS

If you have any questions about this study or require further information, please contact Kyle Paquette or Dr. Pierre Trudel using the contact information provided above. If you have any comments or concerns about your rights as a research participant, please contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 159 Ottawa ON K IN 6N5 Tel : (613) 562-5841 Email: ethics@uottawa.ca

CONSEN	l
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(Participant's signature)

139, Ottawa, ON KTN 61N3 Tel (613) 362-3841 Elliali. etilles@uottawa.ca
CONSENT I agree to participate in this study described above. I have made this decision based on the information I have read in this Information-Consent Letter. If I choose to withdraw from the study, I give my permission for the researchers to analyze the data related to me collected up until that moment.
[] YES
I will have the opportunity to re-examine and modify, if necessary, the information that I have given. That is, at the end of my interview, I will be given the chance to remove or add to any portions of the interview. I will also receive a copy of my interview transcript and will be able to make additional changes before analysis begins. I would like to receive the material:
[] via e-mail or [] hard-copy traditional mail
E-mail address: or
Mailing address:
Please note that no additional security measures will be taken during this exchange of information. That is, the material will be exchanged as a regular e-mail attachment or in a regular standard letter mail service through Canada Post.
I,, agree to participate in this research led by Kyle Paquette and Dr. Pierre Trudel of the School of Human Kinetics from the Faculty of Health Sciences at the University of Ottawa.

(Date)

Appendix O

PSYC 3301: Sport and Performance Psychology Course Outline

Class Information

Dates: Tuesday and Thursday

Time: 18:05-20:55

Location: Tory Building, Room 208
Course prerequisites: PSYC 2100, 2500 or 2600

Instructor Information

Instructor: Kyle Paquette

E-mail:

Office: SSRB Building, Room 106D

Office Hours: Thursday, 17:00-17:45

Course Content

Few if any other domains of human activity have received more attention than the world of sport and high-performance activity. Of interest to psychologists is the potential to understand and improve performance but also promote the enjoyment of sport and exercise activity. In this course, we are going to consider how psychological factors influence outcomes across sport and high-performance environments. For example, we will discuss the influence of self-efficacy, goal-setting, imagery, arousal regulation, and group dynamics. We are also going to examine how these concepts and various psychological skills can be applied to support the pursuit of peak development and high performance across a variety of domains. By the end of the course, you will have gained an appreciation of how person and situational factors affect the pursuit of excellence. Expect to be participating in a number of class activities focused on active learning. Each of you comes to the class with your own experiences as performers. Therefore, your thoughts are worthy of being heard and you can make a valuable contribution to the group.

By the end of the course, you should be able to:

- Articulate an appreciation for the fundamental concepts in the field
- · Apply psychological principles to sport and other high-performance situations
- Understand how sport psychology research questions are framed and explored
- Critically evaluate sport and performance psychology theories, research, and practice
- Clearly and effectively communicate your thinking via written work
- Understand how learner-centered approaches impact teaching, learning and education

Required Reading

Crocker, P.R.E. (Ed.). (2015). Sport and exercise psychology: A Canadian perspective (3rd ed.). Toronto: Pearson.

New copies of the book are available in the Carleton University Bookstore. If you are comfortable using digital textbooks and want to save a considerable amount of money, consider renting an e-book via CourseSmart. Note that access expires after 180 days.

Learner-Centered Teaching

The design, delivery and evaluation of this course are guided by learner-centered principles aimed at providing students with many opportunities to deeply engage with the content and, in turn, to critically reflect on how the content relates to their current understanding of psychology and more broadly to their performance objectives moving forward. Below is a short overview of what to expect in a learner-centered course – Five Characteristics of Learner-Centered Teaching written by Maryellen Weimer in 2012 for Effective Teaching Strategies.

1. Learner-centered teaching engages students in the hard, messy work of learning

I believe teachers are doing too many learning tasks for students. We ask the questions, we call on students, and we add detail to their answers. We offer the examples. We organize the content. We do the preview and the review. On any given day, in most classes teachers are working much harder than students. I'm not suggesting we never do these tasks, but I don't think students develop sophisticated learning skills without the chance to practice and in most classrooms the teacher gets far more practice than the students.

2. Learner-centered teaching includes explicit skill instruction

Learner-centered teachers teach students how to think, solve problems, evaluate evidence, analyze arguments, generate hypotheses—all those learning skills essential to mastering material in the discipline. They do not assume that students pick up these skills on their own, automatically. A few students do, but they tend to be the students most like us and most students are not that way. Research consistently confirms that learning skills develop faster if they are taught explicitly along with the content.

- 3. Learner-centered teaching encourages students to reflect on what/how they are learning Learner-centered teachers talk about learning. In casual conversations, they ask students what they are learning. In class, they may talk about their own learning. They challenge student assumptions about learning and encourage them to accept responsibility for decisions they make about learning; like how they study for exams, when they do assigned reading, whether they revise their writing or check their answers. Learner-centered teachers include assignment components in which students reflect, analyze and critique what they are learning and how they are learning it. The goal is to make students aware of themselves as learners.
- 4. Learner-centered teaching motivates students by giving them some control over learning
 I believe that teachers make too many of the decisions about learning for students. Teachers
 decide what students should learn, how they learn it, the pace at which they learn, the conditions
 under which they learn and then teachers determine whether students have learned. Students are
 not in a position to decide what content should be included in the course or which textbook is
 best, but when teachers make all the decisions, the motivation to learn decreases and learners
 become dependent. Learner-centered teachers search out ethically responsible ways to share
 power with students. They might give students some choice about which assignments they
 complete. They might make classroom policies something students can discuss. They might let
 students set assignment deadlines within a given time window.

5. Learner-centered teaching encourages collaboration

It sees classrooms (online or face-to-face) as communities of learners. Learner-centered teachers recognize, and research consistently confirms, that students can learn from and with each other. Certainly, the teacher has the expertise and an obligation to share it, but teachers can learn from students as well. Learner-centered teachers work to develop structures that promote shared commitments to learning. They see learning individually and collectively as the most important goal of any educational experience.

Course Web Page (cuLearn)

The course website is located at <u>cuLearn</u>. On this site, you will find the course outline, several discussion forums, updates, marking rubrics, and a variety of learning exercises and useful links. It is going to be a dynamic space with many opportunities for you to make a meaningful contribution to the course and connect with your peers. The discussion forums represent an excellent place in which to ask questions of your colleagues, share your thoughts on the material, post interesting and relevant links, arrange study groups, etc.

Tentative Lecture Schedule

Date	Lecture Topic	Readings
July 2	Welcome to PSYC 3301 A look inside the world of high performance	
July 7	Introduction to sport psychology	Chapter 1
July 9	Personality in sport Motivation and behavioural change	Chapter 3 Chapter 4
July 14	Anxiety in sport and exercise Stress and coping in sport and exercise	Chapter 5 Chapter 6
July 16	Sport psychology interventions	Chapter 14
July 21	Sport and performance psychology in action Group case study activity	
July 23	Group cohesion in sport and exercise	Chapter 7
July 28	Coaching psychology Youth involvement and positive development	Chapter 11 Chapter 9
July 30	Review of textbook group activity	
August 4	Video reflection group activity	
August 6	Mental fitness for long-term athlete development	
August 11	Guest speaker	
August 13	Sochi 2014: Performance psychology in action	

Assessment and Grading

Students are advised to carefully read and review the grading framework below, which is intended to provide a clear understanding of the specific requirements for achieving a given letter grade for each assignment. Students should be mindful of the workloads associated with each letter grade, and they should be sure to engage in the workload that most closely aligns with their personal and professional needs (i.e., learning objectives, required grades, career aspirations), as well as their personal and professional circumstances (i.e., course load, work schedule, family responsibilities) during the submission periods for each assignment. An evidence-based understanding of the course content is critical to your success in this course. Reflection plays an important role in each assignment. Students' ability to engage in deep reflection of their personal performance objectives as they relate to the content and themes presented in the textbook and in class has a significant contribution to marks and final grades.

Superficial reflection

Reflection at this level is largely **descriptive**. It makes reference to existing information, but does not make any comment or critique of it. Students look for material that answers the question. Sometimes they "quote" that answer; more often they paraphrase or summarize it, but without real understanding. When asked, they cannot explain what they have written. At this level of reflection, students demonstrate no evidence of analysis – no evidence of learning.

Example: Self-efficacy is defined as "the belief in one's capabilities to organize and execute the course of action required to produce a given attainment" (Crocker, 2011, p. 89).

Medium reflection

Students begin to take a step back from what has happened and start to explore thoughts, feelings, assumptions and gaps in knowledge/literature as part of **the understanding process**. Concepts are understood as theory and there are some links made to personal experiences or real-life applications. At this level of reflection, students demonstrate some evidence of critical thinking and analysis, and description of own thought processes – some evidence of learning.

Example: Sometimes when I am preparing for an important performance (e.g., in sport or at school) I begin to question whether or not I will succeed. There is a lot of doubt that enters my mind, and my belief in my abilities to succeed (i.e., my self-efficacy) decreases.

Deep reflection

This level of reflection shows that the experience has created a change in the person. To do so, the writer needs to be aware of the relevance of multiple perspectives and how the learning will impact other situations. Students start by recognizing their beliefs and accompanying assumptions. New information and/or experiences disrupt that belief system, thereby forcing students to reconstruct or reform it. At this level of reflection, students demonstrate well-developed analysis and critical thinking – good evidence of learning.

Example: I use to think the terms self-efficacy and confidence could be used interchangeably. After carefully reflecting on both definitions, I now understand that there is an important difference between the two constructs (i.e., self-efficacy refers to a state and confidence refers to a trait), which must be considered if we are to develop an effective intervention plan.

Grading Framework

	D (50-59)	C (60-69)	B (70-79)	A (80-89)	A+ (90-99)
Biography and personal learning plan (10%)	Written reflection of: (a) your motivations and learning objectives for the course, (b) your performance objectives in life, and (c) how your learnings from others course can contribute to your objectives in this course and performance objectives in life; minimum of 1-page + title page; no *academic references	Written reflection of: (a) your motivations and learning objectives for the course, (b) your performance objectives in life, and (c) how your learnings from other courses can contribute to your objectives in this course and performance objectives in life; minimum of 2-pages + title page; no *academic references	Written reflection of: (a) your motivations and learning objectives for the course, (b) your performance objectives in life, and (c) how your learnings from other courses can contribute to your objectives in this course and performance objectives in life; minimum of 3-pages + title page; no *academic references	Written reflection of: (a) your motivations and learning objectives for the course, (b) your performance objectives in life, and (c) how your learnings from other courses can contribute to your objectives in this course and performance objectives in life; minimum of 4-pages + title page; no *academic references	Written reflection of: (a) your motivations and learning objectives for the course, (b) your performance objectives in life, and (c) how your learnings from other courses can contribute to your objectives in this course and performance objectives in life; minimum of 5-pages + title page; no *academic references
Personal training program (20%)	Create a personal training program that outlines the application of 1 (of 5) psychological skill to support your efforts to achieve one identified performance objective; minimum of 1-page + title page and 5 academic references	Create a personal training program that outlines the application of 2 (of 5) psychological skills to support your efforts to achieve one identified performance objective; minimum of 2-pages + title page and 5 academic references	Create a personal training program that outlines the application of 3 (of 5) psychological skills to support your efforts to achieve one identified performance objective; minimum of 3-pages + title page and 8 academic references	Create a personal training program that outlines the application of 4 (of 5) psychological skills to support your efforts to achieve two identified performance objectives; minimum of 4-pages + title page and 10 academic references	Create a personal training program that outlines the application of all 5 psychological skills to support your efforts to achieve two or more identified performance objectives; minimum of 5-pages + title page and 15 academic references
Review of textbook content (20%)	Written reflection of the prevailing content presented in 3 (of 9) chapters covered in class with links to your identified learning and performance objectives; minimum of 3-pages + title page and 5 academic references	Written reflection of the prevailing content presented in 4 (of 9) chapters covered in class with links to your identified learning and performance objectives; minimum of 4-pages + title page and 5 academic references	Written reflection of the prevailing content presented in 5 (of 9) chapters covered in class with links to your identified learning and performance objectives; minimum of 5-pages + title page and 8 academic references	Written reflection of the prevailing content presented in 6 (of 9) chapters covered in class with links to your identified learning and performance objectives; minimum of 6-pages + title page and 10 academic references	Written reflection of the prevailing content presented in 7 (of 9) chapters covered in class with links to your identified learning and performance objectives; minimum of 7-pages + title page and 15 academic references

	D (50-59)	C (60-69)	B (70-79)	A (80-89)	A+ (90-99)
Video reflection (20%)	Written reflection of the conceptual links between a selected online video (1-30 minutes) and the prevailing content of 1 chapter from the textbook; minimum of 1-page + title page and 5 academic references. Be sure to include the link to your video.	Written reflection of the conceptual links between a selected online video (1-30 minutes) and the prevailing content of 2 chapters from the textbook; minimum of 2-pages + title page and 5 academic references. Be sure to include the link to your video.	Written reflection of the conceptual links between a selected online video (1-30 minutes) and the prevailing content of 3 chapters from the textbook; minimum of 3-pages + titles page and 8 academic references. Be sure to include the link to your video.	Written reflection of the conceptual links between a selected online video (30-60 minutes) and the prevailing content of 4 chapters from the textbook; minimum of 4-pages + title page and 10 academic references. Be sure to include the link to your video.	Written reflection of the conceptual links between a selected online video (30-60 minutes) and the prevailing content of 5 chapters from the textbook; minimum of 5-pages + title page and 15 academic references. Be sure to Include the link to your video.
Course reflection and review of learning (10%)	Written reflection of: (a) the course (delivery, content, and assessment), (b) your primary learnings and memorable learning moments (if any), and (c) how your learnings might influence your performance objectives; minimum of 1-page + title page; no academic references	Written reflection of: (a) the course (delivery, content, and assessment), (b) your primary learnings and memorable learning moments (if any), and (c) how your learnings might influence your performance objectives; minimum of 2-pages +title page; no academic references	Written reflection of: (a) the course (delivery, content, and assessment), (b) your primary learnings and memorable learning moments (if any), and (c) how your learnings might influence your performance objectives; minimum of 3-pages + title page; no academic references	Written reflection of: (a) the course (delivery, content, and assessment), (b) your primary learnings and memorable learning moments (if any), and (c) how your learnings might influence your performance objectives; minimum of 4-pages + title page; no academic references	Written reflection of: (a) the course (delivery, content, and assessment), (b) your primary learnings and memorable learning moments (if any), and (c) how your learnings might influence your performance objectives; minimum of 5-pages + title page; no academic references

^{*}Academic references include all peer-reviewed literature or literature supported by peer-reviewed research. All books, articles, magazines, etc. that are not peer-reviewed or explicitly supported by peer-reviewed literature cannot be used as a reference.

Assignment	Submission Period	Value
Biography and Personal Learning Plan	Week of July 6-12, 2015	10%
Personal Training Program	Week of July 20-26, 2015	20%
Review of Textbook	Week of July 27-August 2, 2015	20%
Review of Textbook Group Activity (see below)	July 30, 2015	10%
Video Reflection	Week of August 3-9, 2015	20%
Course Reflection and Review of Learning	August 13, 2015	10%
Weekly Quiz Questions (see below)	End of classes	10%

All assignments (1) have no page limit, (2) are evaluated using the grading rubric below, and (3) are required to be submitted online through cuLearn in a ".doc" or ".docx" file format. Please remember to clearly identify the grade you are pursuing on the title page of each assignment you submit. Grades will be posted between 1-2 weeks following the submission period.

Level of Reflection							
1 Superficial reflection		2 Medium reflection		3 Deep reflection			
		Accuracy	of Content				
Does not present cont accurately and/or with appropriate supp		Presents content accurately and with appropriate support most of the time		Presents content accurately and with appropriate support throughout entire assignment			
		Quality of Writ	ing/Formatting				
Does not convey a clear message; develops no logical sequence and gives no order to ideas; does not make use of appropriate sentence structure and punctuation; several errors in grammar, spelling and/or APA	through assign logica gives some of use of sentence some of error	s a clear message nout some of the ment; develops al sequence and corder to ideas of appropriate e and punctuation of the time; some in grammar, ang and/or APA	Conveys a clear of throughout most assignment; des logical sequence gives order to ide of the time; make appropriate ser structure as punctuation most time; minimal es grammar, spelling APA	t of the velops ce and cas most ces use of attence and ce t of the trors in	Conveys a clear message throughout the entire assignment; develops logical sequence and gives order to ideas all of the time; makes use of appropriate sentence structure and punctuation all of the time; no errors in grammar, spelling and/or APA		

For students pursuing grades of D, C, and B on assignments:

• Grades 1-2 = D- (51-52), C- (61-62), B- (71-72)

- Grades 3-6 = D (53-56), C (63-66), B (73-76)
- Grades 7-9 = D+ (57-59), C+ (67-69), B+ (77-79)

For students pursuing a grade of A on assignments:

- Grades 1-3=B+(77-79)
- Grades 4-6 = A-/A (84-86)
- Grades 7-9 = A (87-89)

For students pursuing a grade of A+ on assignments:

- Grades 1-4 = A (86-89)
- Grades 5-9 = A + (95-99)

Review of Textbook Group Activity

On July 30th, there will be a group activity to assess students' learning related to the textbook content covered to that point as well as the content outside the scope of the textbook presented in class. The format of the group activity requires students to form groups of 2-4 students. Collectively, the students will collaborate to answer both multiple choice and short answer questions presented by the professor using PowerPoint. Groups will have 1.5 minutes to discuss and answer each of the 50 multiple choice questions, and six minutes to discuss and answer each of the 10 short answer questions. Multiple choice questions are worth 1 mark each (50 marks), and short answer questions are worth 5 marks each (50 marks). Each member of the group will receive the collective mark of the group. Students are responsible for selecting their groups, and therefore should begin planning in preparation for the activity.

Weekly Quiz Questions

At the end of each class (with the exception of July 2nd, August 11th and 13th), a quiz question related to the textbook content will be posted for students to answer in class. Students will have five minutes to complete the question and submit their written response to the professor. Students requiring academic accommodations will be provided additional time to complete the quiz questions. Each quiz question is worth 1% of the students' final mark (10 quiz questions x 1% = 10% of final mark). Students are required to attend class to complete the quiz questions. There are no circumstances in which students are eligible to make-up missed quiz questions. As such, a missed class, no matter the reason, that forces a student to miss a quiz, will result in a 0.

Policy on Late Assignments

Please note that this is an advanced undergraduate class, so students are expected to understand the importance of adhering to deadlines. The submission period for all but one of the written assignments are specifically designed to provide students with a 7-day time period in which they can submit their assignments. All assignments submitted after the submission period has ended will be penalized at a rate of 25% per day or part day. In the interest of being equitable to all students, there will be no grace period. Therefore, a document submitted one minute after the submission period has ended would be considered late. A doctor's note or other medical documentation must be provided in order to potentially avoid late penalties.

Email Policy

Please note the following email policy will be strictly enforced:

• All emails sent to the Teaching Assistant will be ignored

- All emails require the course code and the topic of the inquiry in the subject line (e.g., PSYC 3301A, Video Reflection)
- All emails related to discussions that took place in class (i.e., regarding content or assignments) will be replied to with: "Please post your question on cuLearn."
- All emails related to information found in the course outline will be replied to with: "Please see course outline"

Assignment Questions to Consider

Below is an outline of all five written assignments and associated questions to consider for the various levels of reflection. By no means are students required to answer all questions listed for each assignment – this is intended to be a guide to help students better understand the types of questions that can be used to engage in deeper levels of reflection for each assignment.

Biography and Personal Learning Plan

Questions to *consider* for superficial reflection:

- What are my performance objectives in life?
 - o What do I want to accomplish academically?
 - What do I want to accomplish in my career?
 - What do I want to accomplish in sport/hobbies?
- Why am I taking this course?
- What am I specifically hoping to learn in this course?
- What did I learn from other courses that might help me achieve my learning objectives in this class and my objectives in life?

Questions to *consider* for medium reflection – in addition to the questions above:

- Why am I trying to achieve these specific objectives? What do I think it will bring me?
- What am I prepared to do to achieve my learning objectives?
- How specifically will my learnings from other courses help me achieve my objectives?
 - What is the relevance of the knowledge I learned from the other course?
 - o How is it related to my learning objectives?
 - o How is it related to my objectives in life?

Questions to *consider* for deep reflection – in addition to the questions above:

- What are some of my habits/traits that will help me achieve my objectives?
- What are some of my habits/traits that will interfere with me achieving my objectives?
- How do I intend to make use of this knowledge?
 - How will I become a changed person as a result of acquiring this knowledge?

Personal Training Program

Questions to *consider* for superficial reflection:

- What performance objective(s) will be the focus of my training plan?
- What factors related to achieving my objective(s) are important to consider when creating a training plan?
- What psychological skill(s) will I use to help me achieve my objective(s)?
- What concepts, ideas or themes related to the psychological skill(s) are important to consider when creating my training plan?
- How do I intend to make use of the skill(s) to help me achieve my objective(s)?

Questions to *consider* for medium reflection – in addition to the questions above:

- Why did I choose to focus my training plan on the following performance objective(s)?
- Why did I choose the following psychological skill(s)?
- What other psychological skill(s) could have I selected? Why?
- What literature supports the way I intend to make use of the psychological skill(s)?
- What are alternative ways I could use the skill(s)?

Questions to *consider* for deep reflection – in addition to the questions above:

- What are some challenges that might interfere with my training plan?
- What are some strategies I can use to overcome these challenges?
- How would this training plan change if I were creating it for a client with the same performance objective(s)?
 - What do I need to know about the client to create an effective training plan?
 - o How would I collect this information?
 - What are the risks associated with developing a training plan for a client?
 - How can I use the knowledge I learned while doing this assignment outside this course?
 - How has my understanding of sport and performance psychology changed, if at all?

Review of Textbook Content

Questions to *consider* for superficial reflection:

- What is the most important content (topics, theories, studies, models) presented in each chapter covered in class?
- What content relates to my performance objectives?
 - What content relates to my learning objectives?

Questions to *consider* for medium reflection – in addition to the questions above:

- What are the origins of this content?
 - How were the theories and models developed?
 - What empirical support is provided for the theories and models?
 - o How do you know the studies cited in the textbook are reliable sources?
- What specific content resonated with me and my personal circumstances?
- How specifically does the content relate to my performance objectives?
- Were there contradictions and/or inconsistencies within the content (topics, theories, studies, models) presented in the textbook?

Questions to *consider* for deep reflection – in addition to the questions above:

- What questions do I still have after reading the chapters, discussing the content in class, and reviewing the content for the purpose of this assignment?
- How will I find the information required to answer the questions I still have?
- How can I use the knowledge I learned while doing this assignment outside this course?
- How has my understanding of sport and performance psychology changed, if at all?

Video Reflection

Questions to *consider* for superficial reflection:

- What are the major themes, ideas and/or messages presented in my video?
- What chapter(s) in the textbook relates to my video?

- What content (topics, theories, models) presented in the chapter(s) relates to my video?
- What are the prevailing links?

Questions to *consider* for medium reflection – in addition to the questions above:

- Why did I choose my video? What about it interests me?
- How specifically does the content relate to my video?
- What other chapter(s) and content relate to my video? How?
- Is there content in the chapter(s) that conflicts with or goes against the themes, ideas and/or messages in my video?

Questions to *consider* for deep reflection – in addition to the questions above:

- If someone else watched my video (someone completely different than me), what other themes, ideas and/or messages might they point out?
- What are the limitations to an assignment/activity like this?
- How can I use the knowledge I learned while doing this assignment outside this course?
- How has my understanding of sport and performance psychology changed while doing this assignment, if at all?

Course Reflection and Review of Learning

Questions to *consider* for superficial reflection:

- What do I think about the course?
 - What did I like/dislike about the delivery of the course?
 - What did I like/dislike about the content of the course?
 - o What did I like/dislike about the assessment of the course?
- What were the most important/interesting things I learned from this course?
- What were some memorable moments (i.e., "Aha!" moments) for me?

Questions to *consider* for medium reflection – in addition to the questions above:

- Why did I particularly like/dislike certain aspects of the delivery, content, and/or assessment of the course?
- Why do I think some things stuck with me more than others?
- What made some moments more memorable than others?
- How can the knowledge I learned in this course help me achieve my performance objectives moving forward?

Questions to *consider* for deep reflection – in addition to the questions above:

- Based on the knowledge I learned in this course, what simple and practical strategies, if adopted by the average person, could have a positive impact on their overall quality and satisfaction of life?
- How has this course impacted/changed me, if at all?
 - o How has my understanding or perspective of learning changed?
 - o How has my understanding of sport and performance psychology changed?
 - o Have I changed any habits?
 - o Do I see anything differently than before?

LEARNING SUPPORT SERVICES

This service represents one-stop shopping for academic support on campus. For example, they offer group study rooms, free drop-in sessions with study skills specialists and writing tutors, free academic skills workshops, networked computers, a tutor referral service, and supportive peer helpers who are trained to help with your academic needs. They are located in the MacOdrum Library. For more information, visit the <u>LSS Website</u>.

Pregnancy obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the Student Guide

Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details see the **Student Guide**

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term.

PLAGIARISM

The University Senate defines plagiarism as "presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own." This can include:

- Reproducing or paraphrasing portions of someone else's published or unpublished material, regardless of the source, and presenting these as one's own without proper citation or reference to the original source;
- Submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- Using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment;
- Using another's data or research findings;
- Failing to acknowledge sources through the use of proper citations when using another's works and/or failing to use quotation marks;
- Handing in "substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs."

Plagiarism is a serious offence, which cannot be resolved directly with the course's instructor. The Associate Deans of the Faculty conduct a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They range from a mark of zero for the plagiarized work to a final grade of "F" for the course, and even suspension from all studies or expulsion from the University.

Letter grades assigned in this course will have the following percentage equivalents:

A + = 90 - 100	B+ = 77-79	C + = 67 - 69	D+ = 57-59	F = Failure	
A = 85-89	B = 73-76	C = 63-66	D = 53-56		
A = 80-84	B - = 70-72	C = 60-62	D = 50-52		

RESOURCES (613-520-2600, phone extensions)

Department of Psychology (2644)	B550 Loeb
Registrar's Office (3500)	300 Tory
Student Academic Success Centre (7850)	302 Tory
Paul Menton Centre (6608)	500 Unicentre
Writing Tutorial Service (1125)	4 th floor Library
Learning Support Services (1125)	4 th floor Library