

# “It Doesn’t Feel Like I’m Coaching”: Using a Kinesio-Cultural Exploration to Become a More Ethical Rhythmic Gymnastics Coach

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Rhythmic gymnastics (RG) is a sport that combines complex technical movements with hand-held apparatus, which, in turn, is used as an extension of the body’s movement. Therefore, coaching RG requires specialized knowledge for the athletes to successfully develop the required technical skills. In Canada, RG coach education is primarily delivered through formalized courses and informal learning of coach mentoring, experiential learning as a gymnast within a club setting, and copying examples from top international coaches. Traditionally, RG coaching has followed authoritarian coaching practices with the coach dictating the training to focus specifically on repetition of RG specific skills. These coaching practices can have unintended harmful, long-term consequences. In this study, I develop my own practice as an RG coach to consider more ethical coaching. To do this, I employ Action Research to implement a novel approach to skill learning, kinesio-cultural exploration (KCE), that requires me to reconceptualize skill development in a competitive RG setting and challenges the traditional authoritarian relationship between coach and gymnast.

**Keywords:** Kinesio-Cultural Exploration, KCE, Action Research, ethical coaching, rhythmic gymnastics, skill development

I never imagined when I started coaching rhythmic gymnastics (RG) that, over 30 years later, it would be my life’s passion. Over that time, I have occasionally walked away from the sport, frustrated with the tradition-bound and slavish adherence to Eastern European training methods. But I never truly left. The prospect of pushing the sport’s boundaries creatively and athletically kept drawing me back. When I ran my own club, I was able to satisfy my innate curiosity and experiment with applying conventional sport science practices to RG. Sometimes my intentions were clear, but for the most part, the ideas I explored lacked rigour and were shaped by simply asking

“what happens if I try...”. As the gymnasts I coached grew and matured, many began to express interest in coaching.

Over these 30 years, I coached all levels (recreational to elite competitive) and all ages (2 to 80 years). I owned my own club for 12 years and as the Head Coach worked with hundreds of gymnasts and mentored ten coaches. I closed my club during the COVID pandemic, in part due to increasing financial pressures, but primarily because my interests were shifting to coach education. I began facilitating coaching courses in gymnastics in 2009, focusing primarily on educating RG coaches. I became a coach evaluator, responsible for mentoring and evaluating coaches during their certification process, in 2019.

In this study, I use Action Research (AR) as a framework to transform my practices around teaching and learning skills towards becoming a more ethical coach. AR is often used by coach researchers to increase self-awareness through iterative cycles of planning, action and reflection (McNiff & Whitehead, 2016). To help me transform my coaching practices, I employ a new pedagogical approach (kinesio-cultural exploration or KCE). This approach challenges me to reconceptualize skill learning and shift my focus away from traditional, drill-based gymnastics practices towards developing gymnasts’ movement sensibilities through exploration and experimentation. My purpose, therefore, is to develop my expertise as a more ethical RG coach by implementing a KCE approach to skill learning. To do this, I first review literature on coach learning with a specific emphasis on coaching RG. I then detail how I used AR to implement different practices for skill learning using KCE as a pedagogical approach to coaching RG before discussing the findings from my AC. I conclude with reflecting on the possibilities for more ethical coaching of RG with KCE pedagogy.

## REVIEW OF LITERATURE

Coaches strive to improve their practices by developing their expertise through different educational and experiential opportunities. However, what is often lacking throughout this process is the exploration of how to become more effective and ethical as coaches. We learn about decision-making processes, recipes we can follow, but rarely do we learn to consider how our knowledge about training athletes evolved or how it continues to shape our practices in intentional and unintentional ways. Thus, to begin the process of becoming a more ethical coach, I start by reviewing different types of

coaching knowledges in RG, how it is coached, some of the unintended consequences of those practices, and why gymnastics coaching practices need to change. Finally, I examine skill learning pedagogies and, in so doing, I hope to illustrate why I think a significant shift in how I conceptualize skill learning and practise in gymnastics can help me develop my expertise as a more ethical coach.

Rhythmic gymnastics is a sport that combines complex technical movements with hand-held apparatus, which, in turn, is used as an extension of the body's movement. There are five apparatus: rope, hoop, ball, clubs and ribbon, which are rolled, thrown, caught, bounced and manipulated in multiple, creative ways. Skills with the body (stationary positions, rotating elements, leaps and jumps) and apparatus are woven together with dance steps and other movements to create choreographed, complex sequences (routines) performed with musical accompaniment. These sequences should tell a story, highlighting the aesthetically and emotionally expressive abilities of the individual gymnast or group. In competition, routines are evaluated by a panel of judges who assess skill technique and execution, musicality, and the aesthetic 'look' of the movements as prescribed by specific rules and criteria laid out in the Code of Points (rulebook). Thus, during training, coaches and gymnasts strive to replicate these idealized skill standards with the goal of maximizing the number of points a gymnast/group can receive for a routine. As a result, coaching practices that focus on repetitive drills, automation, and perfection are the norm.

Coaching practices, in gymnastics or any other sport, are not created in a vacuum, they are "descendant[s] of that which came earlier" reflecting the history and power inherent in knowledge creation (Jones & Hemmestad, 2019, p. 5). Many modern gymnastics practices trace their origins back to war-torn 18th century Europe where gymnastics was used to build national military strength (Cervin, 2020). As women's participation in gymnastics grew, male educators and instructors combined the use of hand-held apparatus with movement to music to develop feminine qualities, like grace and posture, through paternalistic training structures that again emphasized drilling and repetition (MelodyRG, 2021). Since the 1960s and 70s, Eastern European nations have dominated RG on the international stage, particularly former Soviet Union and other Eastern bloc countries. In their pursuit of excellence and international success, western nations have unquestioningly adopted many of these practices (Girginov & Sandanski, 2004). Although RG has evolved considerably over the last 30 years, many of the current coaching practices retain their historical, militaristic roots.

In Canada, RG coach education is primarily delivered through formal learning with organized coach education that favors standardized curricula, biological content

delivered over short periods with few opportunities to problem-solve or integrate new knowledge into sport-specific contexts is typical of this setting (Nelson et al., 2006). Gymnastics coaches in Canada are required to participate in formalized training through Gymnastics Canada (GymCan) and National Coaching Certification Program (NCCP) courses. These courses are often a mixture of online and in-person learning and are taught over three to four days. The quality of the educational experience depends on individual learning facilitators whose background, expertise and knowledge vary widely.

However, informal learning is also an important way of learning how to coach RG. Informal learning is associated with the lifelong accumulation of knowledge acquired through reflection, mentoring, or communities of practice (Nelson et al., 2006). According to Nelson et al. (2006), informal learning is primarily self-directed, where knowledge and expertise are shaped through the coach's actions and choices. However, mentoring and 'learning by example' tend to perpetuate cultural assumptions including unintentionally harmful practices (e.g., Zehntner & McMahon, 2018). This is a common practice in all gymnastics sports where coach mentoring, experiential learning as a gymnast within a club setting, as well as copying examples from top international coaches (e.g., Kerr, 2019), increasingly via Instagram and YouTube, are more influential in shaping sport-specific practices.

According to physiological, sociocultural, and psychosocial researchers this type of coach learning has resulted in common gymnastics coaching practices, where the coach:

- is authoritarian and, as the technical knowledge-holder, dictates what gymnasts do (e.g., Barker-Ruchti & Tinning, 2010; Kerr, 2014),
- provides constant feedback on skill performance and appearance, often in the form of yelling, punishment, and intimidation (e.g., Cavallerio et al., 2016; Jacobs et al., 2017; Kerr et al., 2006; Mazumdar, 2020),
- focuses on repetition of sport-specific drills (progressions) to achieve automation and perfection of skills (e.g., Barker-Ruchti, 2008; Oliver et al., 2018),
- creates a highly scheduled practice where the rhythm and order of every training session are the same (e.g., Cavallerio et al., 2016),
- demands intense commitment from an early age in the form of long training sessions, multiple times a week (e.g., Barker-Ruchti & Tinning, 2010; Kerr 2012), and
- regulates and monitors the gymnast's weight, as well as response to and recovery from injury (e.g., Johns, 1998; Schubring & Thiel, 2014).

The extremes to which these practices are implemented varies at different levels (e.g., sub-elite, elite) and with different coaches. Some coaches recognize the value of the gymnast participating in decision-making (Kerr et al., 2015) or that a positive approach can promote the development of life-long skills (Kilic, 2019; White & Bennie, 2015). While many of these coaching practices are implemented under the guise of doing what is in the gymnasts' best interests in becoming skilled, successful practitioners, they all have unintended consequences, some of which have harmful, long-term implications (Stirling et al., 2012).

Gymnasts are used to being told what to do and unintentionally become passive participants in their own training (Barker-Ruchti & Tinning, 2010). They do not think to question or even resist the coach's instructions, even if they are afraid of injury (Barker-Ruchti, 2008) or are in pain (Cavallerio et al., 2016). Constant repetition of skills and routines is driven by the pursuit of perfection. Skills are practised to the point of automation so that a gymnast does not need to 'think' about what to do next or how to do a skill (Barker-Ruchti, 2008). Gymnasts are often encouraged to practise and perform highly complex motor skills despite pain, developing a high pain tolerance threshold (Thomson et al., 2011). This ability to push through or ignore pain manifests as chronic overuse injuries, with injury rates as high as 39.40% in both elite level (d'Hemecourt, 2009) and in sub-elite level rhythmic gymnasts (Gram et al., 2021). Although repetitive skill practices can help a gymnast develop acute body awareness, it promotes a mechanistic experience of movement, enabling her to dissociate from and successfully mask pain (Thomson et al., 2011). As a result, gymnasts are often able to hide physical and/or psychological issues despite maintaining high performance levels (Ryan, 1995; Thomson et al., 2011).

Coaching practices that value intense training from a young age limit life experience outside the gym and gymnasts ultimately learn to accept punishment and regulation as a part of the process of becoming a good gymnast (Barker-Ruchti & Tinning, 2010; Jacobs et al., 2017). In addition, identity as a gymnast and the ability to perform gymnastics skills become intricately linked with the body of a child (Johns, 1998; Kerr et al., 2006). As a result, self-control and self-critique issues that develop from coaching practices that regulate child-like weight and appearance, and strive for unattainable skill perfection have impacts long after retirement from the sport (Lord & Stewart, 2020; Stirling et al., 2012).

In Canada, these long-term consequences have recently come to light as former and current national team gymnasts express their dissatisfaction (in a letter to Sport Canada signed by over 500 gymnasts and coaches, and in a class action lawsuit), with how GymCan and provincial organizations have handled reported cases of physical,

emotional and sexual abuse. Although most gymnastics coaches feel their actions are in their gymnasts' best interests, the consequences of these day-to-day coaching practices are nonetheless significant in paving the way for harmful abuses to occur. These consequences are not limited to elite level training. Expectations of how to practise skills, structure training, and regulate performance at sub-elite levels are informed by elite level coaching practices, thus gymnasts are exposed to the same unintended consequences throughout much of their careers. Overuse injuries and hiding or pushing through pain are ingrained early in gymnasts' careers (Gram et al., 2021) as a result of coach-led skill practices that prize automation and perfection over adaptability or mastery of movement. Clearly, it is not enough for coaches to simply take a kinder, gentler, more positive approach to training gymnasts (Jacobs, personal communication, December 21, 2021). Larger scale, fundamental change is required at all levels. As a coach and coach educator, I aim to model how transformational change can occur, at least, at an individual level. Therefore, instead of the authoritarian model of coaching, I opted for an alternative skill pedagogy of kinesio-cultural exploration.

## **THEORETICAL FRAMEWORK: KINESIO-CULTURAL EXPLORATION**

Kinesio-cultural exploration (KCE) is an exploration of movement landscapes or “kinescapes” (Larsson et al., 2021, p. 2). However, unlike non-linear pedagogies, such as Ecological Dynamics (ED), the principles of movement in kinescapes are not only mechanical, but also include the cultural and aesthetic expectations that are key to good sport performance (Barker et al., 2022). KCE focuses on developing *ability* rather than perfecting the execution of a particular skill. By incorporating the learner's previous movement landscape experience and providing opportunities to grasp a pattern or explore a rhythm, learning is not only physical, but also a dynamic, socioculturally constructed process (Nyberg et al., 2020).

In most sport contexts, including RG, the primary objective is on practice that promotes optimal performance of a particular movement in a reliable manner (Barker et al., 2022). Although KCE also requires repetition, it is not simply “a reproduction of the same’... repetition contributes to increased sensibility (percepts) among learners, which opens up new options for action” (Larsson et al., 2021, p. 4). In KCE athletes' kinescape exploration is influenced by everything they have done, felt and experienced up to and throughout each step of the learning journey. That experience influences the choices athletes make, the opportunities perceived, chosen, or passed up. KCE, thus, is individualized by the learner and focuses on developing a sensual awareness of

movement, rather than finding the best or most efficient technique (Barker et al., 2020). The type of learning opportunities that can be provided to facilitate participants' learning and individual progress further distinguish KCE from ED. For example, Larsson et al., (2021) provided the following variety of opportunities for participants to develop their ability to unicycle:

- selecting and discussing YouTube video clips about unicycling the participants thought would be helpful in learning,
- journaling and reflecting on the task, their attentional focus, the experience and meaning of unicycling, what was easy or difficult, their moods throughout the learning process,
- peer-coaching,
- exploring riding through trial and error, and
- a minimum of direct instruction.

In KCE, learning is less about scaffolding (starting with the basics and progressing to more advanced movements) and more about attuning to the abilities, capabilities, interests, and needs that continually shift and shape the learner's exploration of movement (Nyberg et al 2020). This emphasis on developing a sense of movement expertise requires not only physical and mental engagement, but an appreciation of the "social norms, values and expectations that help to comprise that kinescape" (Barker et al., 2022, p. 32). Understanding how an athlete frames and gives meaning to their learning experience is inextricably linked to what is learned and how this knowledge is embodied through movement. Thus, as a pedagogical process, KCE allows athletes to connect intricately their physical capabilities, experience, memory, perception, anticipation and decision-making, facilitating a more holistic understanding of movement, and an embodied awareness (Barker et al., 2020). Conceptualizing skill learning as an ability rather than something that is driven by technique-focused progressions would be a radical reimagining of traditional, coach-regulated practices for me as an RG coach.

To develop my expertise as a more ethical practitioner, who does not need to dictate or dominate gymnasts' learning process, I needed to create an informal learning opportunity that allows me to question, consider, reshape and review my actions and intentions. A kinesiio-cultural or embodied approach to skill learning is ideal because it is far removed from traditional coaching practices in RG. While the skill learning process in RG must focus, to some extent, on producing a particular outcome, KCE challenges me to create new opportunities for skill learning by limiting not only repetitive practices that lead to overuse injury, but also my authority and guidance. In this study, I asked: How can I transform my practices and become a more ethical coach

by employing a kinesio-cultural (embodied) approach to skill learning? To begin the process of transforming my approach to coaching skill learning, I used Action Research as a framework.

## RESEARCH METHODS

Action Research (AR) is an approach that has been used by coach-researchers to increase self-awareness about coaching practices and develop expertise through a clearly defined research process of cycles of action and reflection (e.g., Ahlberg et al., 2007; Chapron & Morgan, 2020). The coach-researcher engages in an iterative process of planning, action, observing (data collection), reflection and change – known as an action cycle – while immersed in a contextually relevant situation (Chapron & Morgan, 2020). At least two iterations of action cycles are required however, ultimately, the process is more important than the number of steps or the number of cycles (Ahlberg et al., 2007). I follow Ahlberg et al., (2007) to use a technical AR process to increase awareness of my own coaching behaviours and to develop my ethical coaching expertise. I now detail my AR process.

### Coaching and Practice Context

In this study, I worked with gymnasts from a local rhythmic gymnastics club in Edmonton, Alberta, which comprised competitive gymnasts at local, provincial and regional levels. The Head Coach of the club is a close friend and she brought me in to work with her gymnasts on leaping. The club trained in a gymnasium within a multi-use sport and education facility. The gymnasts ranged from 12-19 years of age and all identified as female. Most had trained at the same club for the duration of their participation in RG, which ranged from 4-14 years. For this study, I worked with provincial and regional stream gymnasts who typically trained between 6-16 hours per week.

The action cycles took place during the off-season (section 1 in July, section 2 in August). The club offered two training sessions during this period, July 25-29 and August 22-26, 2022, in which gymnasts trained up to five days a week. Each training session ran for three hours in the evening. For the purposes of my research, I worked with six to eight gymnasts, three times a week for 60 minutes during each of the week-long training sessions. Five of the gymnasts participated in both action cycles and four additional gymnasts participated in either the July or August action cycle.



### **First Action Cycle**

For the first action cycle, I selected the turning leap, a high scoring skill that can be performed in various leg and body positions (e.g., split, arch). This skill type accounts for 85% of all leaps and jumps in routines at the international level (Agopyan & Ors 2019). I used a KCE approach to develop and improve gymnasts' understanding of this skill to develop ability and to shift the power dynamic from coach to gymnast to more ethical collaborative practices. Following Nyberg et al. (2020), I developed a series of ten stations:

1. exploring rhythm,
2. a plyometric circuit (with an upper and lower body activities),
3. exploring emotion and movement,
4. strength exercises for the lower body (three),
5. exploring height in jumping or leaping,
6. exploring distance in jumping or leaping,
7. videos of different gymnasts performing turning leaps,
8. videos exploring the “physics” of leaping,
9. an iPad for videotaping themselves, and
10. a ‘take a break’ station

Each station had task cards with series of photos or written activities with series of questions to describe the activities. Gymnasts were encouraged to go to whatever stations they thought might be interesting or helpful, individually or in groups, and to explore through trial and error, as well as to peer coach or share ideas with each other. There was no set order in which to visit the stations or do the activities and no requirement to visit a certain number of stations in one practice. I kept my explanation at the start to a minimum and I encouraged gymnasts to ask questions of each other and of me.

Following the first action cycle (July 26-28), I engaged in a reflective process to make sense of the data collected from that cycle. I used the following questions to help guide my reflections: What sense did I make of the practice situations and what alternative practices or modification could I create based on the themes that emerged from my first cycle field notes?

### **Second Action Cycle**

Based on my field, conversations with gymnasts, and my reflections following the first action cycle, I recreated a single circuit with ten stations in which the gymnasts explored rotations about the body's longitudinal axis (pivots, Appendix B). Based on the gymnasts' feedback, I retained stations with video (science of rotation, videotaping

themselves, videos of other gymnasts and dancers performing similar skills) and the ‘take a break’ station. The rest of the stations included:

- diaphragmatic breathing (learning to engage core muscles correctly while breathing),
- exploring movement qualities in rotations (e.g., Laban),
- manipulating the centre of pressure,
- exploring subtle adjustments of body position to stabilize balances, and
- combining rotations about different axes (exploring how all rotations can help the brain adapt to dizziness and reduce the risk of repetitive injury)

### **Data Collection**

My primary form of data collection was field notes, which I created by recording audio notes following each session. I then transcribed each recording the next morning and arranged my notes according to categories below. I used six categories to help cue my observations:

- Structure and organization of practice: the organization of the stations, set up of the gym, and the space we occupied.
- Descriptions of activities, time, and space: my explanations, gymnasts’ questions, time spent on the entire activity, stations gymnasts visited, gymnasts working individually or in groups, and gymnasts moved throughout the space.
- Individual athletes’ reactions and responses: facial, body, verbal responses to the different activities Individual and group *successes*
- Setbacks: activities not clearly explained, frustrating and/or difficult, personal frustrations
- Personal observations, surprises, observations, and comments: specific feedback from the gymnasts

### **Data Analysis**

I analyzed my data by following steps:

1. I copied and pasted my written notes from all three sessions according to each of the field note categories (e.g., structure and organization, individual athletes’ reactions and responses, etc.) into a single file.
2. I read through the notes multiple times to identify common themes that emerged from each category.

3. I compared emergent themes across all the categories. After this initial analysis and subsequent reflection, I modified my plans for the second action cycle to address issues and themes that emerged. I then compared and contrasted emergent themes from both analyses, eliminating repetitive themes and noting exceptions.
4. I identified the following three themes: working with KCE, using a different pedagogical approach, and the social side of coaching.

## RESULTS AND DISCUSSION

The iterative process of action (task design, my coaching practice) and reflection (my learning, the gymnasts' enjoyment, un/helpful tasks) in the first AC helped identify opportunities to improve my knowledge in the design and set up of the tasks in the second cycle. The broad range of topics that structured my field notes forced me to notice new details of how using KCE challenged me to reconsider my ideas of skill development and to transform my coaching practices. I now present my findings the following themes that emerged from the analysis: working with KCE; using a different pedagogical approach; and the social side of coaching.

### Working with KCE

As KCE represented a significant pedagogical departure for me as an RG coach and thus, while it presented a new challenge for me as an RG coach, it also provided opportunities for new ways of coaching.

#### *A New Challenge*

Barker et al. (2022) speculated that using KCE to coach for skill development would require a change in coaching practice, one that focuses on developing athletes' sensibilities, not just technical prowess. Thus, this approach challenged me to 1) broaden my expertise and 2) focus on sharing rather than transmitting knowledge.

By creating station tasks, the gymnasts had more control over what they did, what they learned, and how they chose to use the information. Instead of direct feedback (e.g., Cavallerio et al., 2016; Jacobs et al., 2017), I engaged the gymnasts in tasks that encouraged intelligent "thinking-acting" (Barker et al., 2022, p. 33) and the use of judgement and reflection. This did not however, mean an absence of repetition: the gymnasts were "repeating or focusing on

aspects that will help them learn to leap better without necessarily repeating the movement over and over” (Field Notes, 2022/07/26). The tasks that embodied different concepts required the gymnasts to explore movement in each station. The intent was to increase their sensibility of movement and appreciate the consequences of subtle changes (Barker et al 2020; Larsson et al 2021). By focusing on developing their ability to leap and rotate rather than an idealized performance I was able to create learning opportunities that encouraged exploration and sensing of movement in a multitude of ways.

#### *Opportunities to Enhance My Coaching Knowledge*

I enhanced my coaching knowledge in three ways: 1) using non-formal learning (Nelson et al., 2006), 2) by listening to the gymnasts, and 3) through the iterative AR process. First, although many tasks I created were inspired by my educational background and motor-based drills, I refined my knowledge of biomechanics, and explored the role of breathing, emotion, rhythm and qualities of movement by reading scientific research, blogs, and videos. In some cases, this presented an unexpected challenge. For example, given the breadth of research on rotations, I found it difficult to narrow my focus as I created new tasks. Planning and creating tasks also meant that the majority of my work was done in advance of rather than during practice to take a more ‘hands-off’ approach in the gym. This format was in stark contrast to traditional gymnastics coaching practices, which emphasizes knowledge transmission from coach to gymnast through drill-based progressions that focus on automation and perfection of movement (e.g., Barker-Ruchti, 2008; Barker-Ruchti & Tinning, 2010; Cavallerio et al., 2016; Oliver et al., 2018).

Second, actively listening to the gymnasts’ feedback at the end of the first AC allowed for a more inclusive and collaborative construction of knowledge in the second AC (Jones & Hemmestad, 2019). Their feedback on what they found most enjoyable and most/least helpful affirmed my own observations, and guided me in creating the second set of stations. Tasks that involved experimentation (e.g., what happens when you coordinate your breathing – in slowly, in quickly, out slowly, out quickly, or hold your breath – with your rotation) and observation of themselves or others on video inspired the most activity and connection. This aligned with the speculation by Barker et al. (2022) that an embodied sense of skill would require the development of “sensitivity to different qualities of movement – essentially the ability to answer the question, ‘what happens if I’” (Barker et al., 2022, p. 7). Tasks that encouraged comparing and contrasting, noticing how movements felt, and exploration of different qualities challenged the gymnasts to experience these skills as a landscape of movement

possibilities rather than as a prescribed form. Based on creating and sharing knowledge about skill development collaborative, I was able to create a unique practice environment over multiple training sessions.

#### *Use of Training Space*

As with all gymnastics training spaces, the layout of the gym was highly structured (Barker-Ruchti & Tinning, 2010). In the facility, the carpets were rolled out in a particular orientation and all activities faced a designated ‘front’, as if the gymnasts performed on a stage for an audience of one, the coach. In this comfortable and familiar setting, using a KCE approach challenged me to rethink how we used and moved in the training space.

First, using stations presented different opportunities to organize ourselves. Instead of partitioning gymnasts in the space according to age and ability, in straight lines, to monitor their work (Barker-Ruchti & Tinning, 2010), I created a more open training space (rectangle) in which I arranged the stations around the perimeter of the carpet. I retained the same shape and order of stations from one session to the next within each action cycle in part, because the locations of some stations depended on the needs of the activity (e.g., ensuring equipment could be organized safely to prevent tripping or other hazards). However, the gymnasts also requested I retain the same station order within each AC to make it easier for them to remember which stations they had visited. This open training arrangement was reinforced during a group activity in the second AC where we spontaneously formed a circle. These open shapes felt more natural and better suited the reciprocal dynamic of learning that I attempted to create by using KCE.

Second, I was not the centre of attention, leading by word or by action. I was less active and sat off to the side for most of the first and second sessions in each AC, periodically changing my vantage point so that I did not feel like I was constantly monitoring their learning. At other times, I moved in and among the gymnasts. As a result, the ‘rhythm and flow’ of training was different, skill learning was not methodically deconstructed and controlled (Barker-Ruchti & Tinning, 2010). I gave gymnasts time and space to move around and explore, encouraging them to work in whatever format they felt comfortable. This created a different dynamic where gymnasts moved non-sequentially through the stations, ‘ping-ponging’ between stations that had ‘interesting’ equipment or captured their fancy in that moment.

Overall, working with KCE presented a new challenge, providing me with opportunities to enhance my coaching knowledge, and reconsider the use of training

space. To do this, I had to increase my professional knowledge and to rethink how to develop skills in competitive RG.

### Using a Different Pedagogical Approach

One aspect of becoming a more ethical coach involved shifting the power dynamic between me as the coach and the athletes (Gerdin et al., 2018) from control to cooperation. This required a different pedagogical approach that required asking questions, making connections, and reconciling my assumptions and expectations. I now discuss each theme in more detail.

#### *Asking Questions*

Typically, skill learning in gymnastics focuses on ensuring gymnasts perform a particular skill in a constant and idealized way (Barker-Ruchti & Tinning, 2010). In KCE, however, knowledge is seen as situated and subjective (Barker et al., 2022), which necessitates a different kind of interaction between coach and gymnast. For me, this meant learning to ask different kinds of questions and learning to deal with unanticipated effects of this approach.

In the past, like other coaches (e.g., Cavallerio et al., 2016; Jacobs et al., 2017), my training sessions were often filled with the sound of my own voice as I asked simple questions, made corrections, and told gymnasts what to do. However, in using KCE, my voice became secondary as my focus shifted to inviting gymnasts to share their experiences and being curious about their answers (Barker et al., 2020). For example, in a group activity in the second AC, I encouraged the gymnasts to:

Try to notice when you need the chair. What's happening when you put your fingers on it? Are you toppling out in the same direction every time? What can you do to regain your control [balance]? How can you anticipate the need for the chair? What's happening just before you topple? (Field Notes, 2022/08/25)

Instead of asking generic questions that implied a 'right' answer or giving gymnasts a series of 'coach-approved' choices (i.e., convergent questioning, Partington et al., 2014), I attempted to help the gymnasts explore their movement landscapes by asking divergent and open-ended questions like "what happens if you try..." (Field Notes, 2022/07/27). This shifted their focus away from comparing themselves to others towards what they noticed, felt or experienced in their own bodies. For Barker et al. (2022), this was key to promoting exploration of kinescapes in coaching for skill development. By asking questions, I attempted to create learning situations in which

the gymnasts were in control of how their bodies moved (mechanics), how movement felt (sense, emotional connection), and what they noticed (aesthetics). The conversations that followed allowed gymnasts to share voluntarily when something felt wrong in their bodies rather than pushing through discomfort or pain as is typical in gymnastics (Oliver et al., 2018; Thomson et al., 2011). Individual reactions of enthusiasm, surprise, understanding (aha), or confusion were also more readily expressed. In using an approach that focused on developing their ability, I challenged myself to ask guiding questions that would help the gymnasts develop a sense of “connoisseurship” as they explored different movements (Barker et al., 2022, p. 29).

Asking questions, however, was not always easy. Occasionally, it was difficult for me to hear their answers as the gymnasts often spoke quietly, perhaps shy to voice their thoughts and opinions. There was also a lot of background noise as another group of gymnasts practised on the other side of the gym. I also struggled to find the words to frame my thoughts and as I waited for the gymnast to reflect and respond. Sometimes “my questions were not...clear, especially if I was trying to base it on an action that emerged. Finding the ‘right’ words to translate into a question on the spot is sometimes harder than others” (Field Notes, 2022/08/25). I also tried to use “words that they were exposed to at different stations to ask them questions about how do you know, how does this feel?” (Field Notes, 2022/08/25). I carefully tried to avoid using words that would inadvertently influence their own observations. This challenged me to rethink how I interacted with the gymnasts in the training space. However, creating a more collaborative approach to skill learning did not solely involve asking questions. As the coach, I also had to draw gymnasts’ attention to opportunities to make connections (Barker et al., 2022).

### *Making Connections*

An integral part of using KCE was capitalizing on opportunities to help gymnasts make connections. As each cycle progressed, I found that using the AR process of note-taking, thinking, analyzing and reflecting (Manfra, 2019) helped me become more cognizant of emergent teaching moments that I could use to make connections.

Throughout each AC, I asked myself and the gymnasts “what does developing your ability to do turning leaps/rotate mean to you”. Their answers exposed unique opportunities that would not occur during typical practices. For example, at the station where gymnasts could videotape themselves:

One of the girls groaned in anticipation of watching herself. I asked her... about what kinds of things did she learn about how to develop her ability to do a

turning leap... How is it different than what your leaps have felt in the past? Her expression afterwards was really excited. She and the other girls in her group were actually excited to video themselves and see what got better rather than video themselves and focus on what they couldn't do. (Field Notes, 2022/07/28)

While I had previously used videos to correct athletes, using video in a KCE context where the focus was on developing ability rather than perfecting a skill allowed me to:

- ask the gymnast's opinion rather than assume I know why she reacted the way she did,
- learn what experiences resonated with her rather than telling her all the things she should know, and
- value her experiences, what she saw, felt and thought, rather than telling her what to see, feel or think.

Making connections between the gymnasts' movement performances and the knowledge acquired from the stations helped me consider how the gymnasts and I were learning together. However, in shifting this dynamic, I began to question my role as a coach.

#### *Reconciling My Assumptions and Expectations*

Changing my pedagogical approach altered my role as a coach to use a more 'hands-off' approach. This also changed the level of the gymnasts' activity, from constant and physical to alternating moments of action and discussion. Phrases like "it doesn't feel like I am coaching" and "they're not doing enough work" peppered my notes and ultimately reflected assumptions and expectations shaped by my experience in gymnastics culture (Hall & Gray, 2016). I was uncomfortable with my more sedentary coaching role in the gym. I found it "hard to be enthusiastic when I'm sitting on my bum [on a bench]. I did try to smile. I tried not to just look at them the whole time, look at other things around the gym. I don't feel like I was doing my job as a coach" (Field Notes, 2022/08/23). At times I felt lazy, bored, distracted, and that I was wasting time (mine and the gymnasts'). Instead of modelling my effectiveness and efficiency by leading and directing (e.g., Barker-Ruchti & Tinning, 2010), using KCE forced me to 'let go' and relinquish control. Ironically, sitting and watching the gymnasts also allowed me to notice that I had created a more enjoyable learning environment punctuated with laughter and encouragement, which left me feeling excited and energized about this approach. I began to realize that inhabiting awkward spaces was perhaps an integral part of transforming my coaching practices. These uncomfortable feelings also extended to what I saw the gymnasts (not) doing.



Typically, skill learning in gymnastics is associated with hard work and an intense work ethic that requires constant physical practise, repetition and red, sweaty faces (Barker-Ruchti, 2008; Cavallerio, 2016). In line with these ideas, I often declared that the gymnasts “were not doing enough work” (Field Notes, 2022/08/23). To some extent, I was aware that gymnasts would need to ‘take a break’ and therefore, included a station they could visit when they needed a break. However, I found it difficult to watch the gymnasts rush through a task, skip some tasks, or sit and discuss (chat) which may have been exacerbated by my own boredom as I sat on the side. The moments where the gymnasts appeared bored or distracted were short-lived as they frequently changed tasks and stations. I observed the gymnasts as they experimented and listened to their experiences, I began to ask: “Is it ok to be bored sometimes maybe or not engaged because they’re tired, is that alright? Do we have to be moving and working all the time?” (Field Notes, 2022/08/24). Recognizing when to stop or take a break should be a vital part of exploring kinescapes particularly in a sport where ignoring the body and pushing through pain are typically valued (Gram et al., 2021; Thomson et al., 2011).

Employing a KCE approach required me to ask questions and make connections. I had to be present without directly controlling what was done and learn to ask divergent questions, to be curious as I listened to gymnasts’ answers, and to help them draw connections between their experiences. Using KCE also provided unanticipated challenges in reconciling my deeply held assumptions and expectations around coaching and working within traditional RG culture. Ultimately, the process of exploring new practices and becoming more aware of my own role as a coach allowed me to be more receptive to seeing the social side of coaching.

### **The Social Side of Coaching**

Using KCE enabled me to create a unique practice environment where I had the opportunity to observe how gymnasts interacted and learned, how the team social dynamics influenced their learning, and how a slight change in the time of season impacted their approach to learning. In the first two sessions of each action cycle, there was a certain awkwardness, as both the gymnasts and I explored this new way of learning. Although I had envisioned that the gymnasts would freely ask me questions and share their ideas, they rarely initiated conversations. Thus, in the second and third sessions of each cycle, I periodically ‘checked in’ with each group, which often progressed to longer conversations. The gymnasts, for the most part, preferred to work

in groups of three to four: a young, less experienced group and an older, more advanced group. In both cycles, the younger group broke up and reformed periodically while the older group remained together. As I placed no constraints on the amount of time spent at each station nor the number of stations to attend in each session, the gymnasts spent time sitting, sharing and discussing ideas.

The gymnasts exemplified a greater willingness to think, puzzle through, laugh, chat, try and fail with each other than in typical drill-based skill practice. Although I expected some interaction among the gymnasts, the younger group in particular was prone to lively experimentation (with expressions of joy and laughter) (see also Nyberg et al., 2021). However, in the older group, the most senior gymnast appeared to step into the role of ‘coach’, and the other gymnasts would sometimes

wait to see what she has to say. She really frames their learning experience. In some ways that’s good. In others, I think it’s limiting. If she’s doing some crazy flexible position that the others can’t do, then they won’t do nearly as much as they might on their own. (Field Notes, 2022/08/23)

Many of the older gymnasts participated actively by imitating and experimenting) but also by observation (watching quietly, using the examples of others) (see also Nyberg et al., 2021). The older group peer coached more often, giving each other specific feedback and suggestions. Although this allowed them to share their knowledge, it also presented an opportunity to perpetuate cultural expectations around how skills *should* be performed, parroting the feedback they had received from their coaches. At times, the balance of power remained in the hands of one person, the most senior gymnast. This was an unanticipated consequence of this approach. However, as my aim was to transform my practices towards becoming a more ethical coach, I refrained from reorganizing the gymnasts to create coach-approved groups, which is a typical practice in coaching gymnastics (Barker-Ruchti, 2008; Barker-Ruchti & Tinning, 2010).

Adding new participants in the second AC influenced the dynamics within and between groups to accommodate the new members. The gymnasts who participated in the first AC tended to guide their group’s exploration of the tasks. Some gymnasts were new to the team training group while others were transitioning from being ‘young’ gymnasts to being the next generation of leaders. This affected how the groups formed and interacted as the gymnasts learned to navigate shifting friendships within this new team.

Finally, the gymnasts’ approach to learning also appeared to be influenced by the timing of the two ACs. The first cycle occurred after a three-week hiatus. The gymnasts were excited, and wanted to have fun and explore new gymnastics skills. It was also extremely hot (35-37°C). This often meant the gymnasts spent more time

sitting and discussing than moving. The second cycle occurred three weeks later. The weather was cooler (25-27°C) and summer vacation was ending. Choreography for routines had already begun and there was a sense of anticipation and urgency for the upcoming season. Discussions often took place while they were standing or moving rather than sitting and the gymnasts often focused on experimenting with specific rotation skills from their new routines.

## CONCLUSION

In this AR study, my aim was to transform my practices to become a more ethical RG coach. To this end, I employed a kinesio-cultural approach to skill learning, which challenged me to reconceptualize how I could develop two types of gymnastics skills: turning leaps and rotations.

Based on the themes and sub-themes that emerged from my study, I transformed my practices in four key ways.

First, I learned to ask questions that required the gymnasts to reflect on what was happening in their bodies as they explored different movement tasks. I also learned to help them draw connections in experimenting with movement. This created a learning environment that encouraged sharing knowledge and collaboration, with the gymnasts becoming more active participants in practice. Second, I used repetition in a myriad of ways that increased gymnasts' sensibility of the consequences of subtle changes. This led the gymnasts to share experiences that felt 'right' and experiences that felt wrong or painful rather than suppressing them. Third, structuring and moving in the training space differently, helped the gymnasts determine how to move through in the open spaces we created. Finally, becoming a more ethical coach also meant learning to recognize how RG culture and traditions permeated my practices. The iterative process of observing, analyzing and reflecting encouraged me to question critically the intentions and consequences of my practices. As a result, I aimed to navigate these influences as I rethought my role as a coach and what it meant to work in the gym.

Consequently, using a KCE approach represented a significant departure from traditional RG coaching practices; I explored the idea of 'doing things differently'. As a coach developer, I could thus lead by example as I challenge the coaches I teach to question and rethink their practices. As a result, I suggest that all coaches could begin by learning to ask open-ended questions to create a more cognitively engaging learning environment where gymnasts are encouraged to share their experiences. Moreover,

incorporating station-based activities on a regular basis alongside other coaching practices can change the learning dynamic in the gym and give opportunities for gymnasts to share and work together. The open training space can further shift the learning dynamic, from the coach as an all-knowing authority figure (Barker-Ruchti & Tinning, 2010; Cavallerio et al., 2016) to gymnasts who are more active and engaged in their own learning and success.

Despite the overall success of my study, limitations such as time constraints, perceived obligations, lack of familiarity with the gymnasts, and the changing number of participants all impacted the outcomes. Therefore, while using KCE provided one path for me to grow as a coach and a coach developer, a more athlete-centred approach to coaching does not automatically solve all problems embedded in coaching practices. My work, however, may provide further opportunities to examine the intended and unintended consequences of using a more holistic approach to skill development. As a coach, I can apply what I learned in using KCE to other aspects of training and thus continue the process of transforming my coaching practices. As a coach developer, I can share my new coaching knowledges and experiences in implementing a more holistic approach to skill learning. Finally, I can build on this work to examine:

- how changing the conceptualization of skill learning influences gymnasts' and coaches' perceptions of skill practise and performance in RG,
- the gymnasts' experiences with KCE and consider how they navigate this new way of skill learning in a culture that embraces perfection, automation and dissociation of mind and body in skill practice, and
- how coaches make sense of learning about new pedagogical approaches in formal education and in their application of new coaching practices in a culturally rigid coaching context.

In this study, I explored how I could transform my coaching practices to become a more ethical coach using an embodied approach to skill learning. In using KCE, I challenged my conceptualization of skill development, shifting from practices that emphasized rote repetition and automation, and that increased the risk of overuse injury to practices that encouraged noticing, experimentation and collaboration. In rethinking my role as coach, I became more aware of the social influences involved in training teenage rhythmic gymnasts. However, becoming a more ethical coach “is complex [and] non-linear requiring on-going commitment and reflection” (Gerdin et al., 2018, p. 37). While using KCE has helped me take the first few steps in this transformative process, ultimately, my journey toward becoming a more ethical coach will continue in many ways and over many years to come.

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## Appendix A Action Cycle #1 Summary of tasks

Station	Task	Purpose/Rationale	Equipment
1	Use iPad to videotape themselves or a teammate.	Peer coaching, subjective feedback and self assessment. Try to connect what you've learned and see what that looks like in your leap.	iPad
2	Strength exercises (3)	Learning to identify which muscles are working (how can you tell), what that feels like and how this translate into helping you improve your ability to do a turning leap	Theraband loops (squat), long bands for kicks, foam mats, roller, pilates ball
3	Plyometrics circuit (upper and lower body)	Explore different speeds of movement	Hurdles, medicine or flat RG ball, rope, raised surface for push up
4	Exploring different rhythms in the preparation and execution of a turning leap.	Connecting rhythm to changes in speed, force and how this influences your ability to leap	Ball
5	Watch videos (7) on iPad of turning leaps performed by rhythmic gymnasts of different ages and stages, and by professional ballet dancers.	They're all turning leaps, but none of them look exactly the same. What style fits you/your ability?	iPad
6	Touching the target	Exploring how it feels/what body does in order to jump higher	Targets taped to wall (different heights)
7	Going the distance	Explore how it feels/what body does to jump different distances	Ropes, ball (for throwing)
8	Take a break from leaping Some suggestions but gymnasts are free to choose what to do	Exploring other complex coordination movements - individual or with a partner/group	Various - ball, ribbon, hoop, clubs, bean bags, roller
9	Explore leaping with different	Explore how emotions can	Emoticons

	emotions	affect your ability to leap	
10	<p>Use iPad to watch three videos on the physics of leaping</p> <p>Concepts covered:</p> <ul style="list-style-type: none"> <li>• Using force (push through foot)</li> <li>• Adding some zip</li> <li>• Momentum of the kicking leg</li> </ul>	<p>Learn about the mechanics of turning leaps to help understand how to make changes, improve body awareness</p>	<p>Foam pillow or block, stars, socks with a weight in the toe</p>

**Appendix B Action Cycle #2 Summary of tasks**

Station	Task	Purpose/Rationale	Equipment
1	Use iPad to videotape themselves or a teammate.	What do your rotations look like? Does it match what you feel? What have you learned? Do you see where you've been able to apply your new knowledge?	Red iPad
2	In and out of control	Changing body position in balances, combining different movements to explore awareness (lift vs rigid)	Chairs, near wall
3	Strength for Stability	Developing body awareness through strength exercises; connecting muscle action to their role in rotations (pivots)	Bands and loops Pilates ring, step Towels, ball Scarves
4	Diaphragmatic Breathing	Breathing from the belly, breathing while the core is engaged, learning how to use transverse abdominals	Towels Rollers Rolled yoga mat
5	Videos of rotations (mostly pivots) (8)	Learning by watching others	Blue iPad
6	Qualities of movement	Exploring time, force/feeling, rhythm in rotations	iPod and stereo (near a plug) Chairs, near wall
7	Take a break	Chat with a friend, stretch, use a roller, or try some rotations with apparatus (still learning about rotating)	Roller Hoops, clubs, ropes, ribbons
8	Manipulating the Centre of Pressure	Developing awareness of how to maintain balance, small adjustments in feet and ankles	Foams (thick, thin) Wobble board Squishy
9	Exploring rotations	Combining rotations around different axes to help explore how you can use any rotation to help minimize vertigo.	
10	Science of Rotation	Understanding the science (physics and physiology) of rotating	Silver iPad GF cardboard, stick

