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ADULT LEARNING PRINCIPLES IN MASTERS SPORT: A COACH'S PERSPECTIVE¹

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Abstract

The art of teaching students has parallels with coaching athletes (Jones, 2007). Research has indicated that adult athletes, termed masters athletes (MAs), feel that coaches should orient their approaches differently when working with them as opposed to younger athletes (Callary, Rathwell, & Young, 2015; Ferrari, Bloom, Gilbert, & Caron, 2016). Adults' preferences for coaching approaches align with key learning principles of the andragogy in practice model (APM) (Knowles, Holton, & Swanson, 2012). The purpose of this instrumental case study was to understand if and how each of the six andragogical (i.e., adult learning) principles were evidenced in how a 30-year-old female canoe/kayak coach described her approaches to facilitate learning with her MA group compared to those taken with her youth athlete group. Three semi-structured interviews, each lasting 90 to 120 minutes, were conducted with the coach. Field notes of learning situations documented during observation of separate MAs and youth training sessions informed questions comprising Interviews 2 and 3. Following deductive analysis, the results showed that the coach's approaches with MAs were largely andragogical, especially in her ability to respond to adults' inquisitive nature, provision of self-directedness, and recognition of the athletes' intrinsic motives. The coach's approaches with youth more closely followed traditional pedagogy, whereby she directed information delivery, limited the youth's autonomy and decision making in training, and considered more extrinsic, competitive motives important to their commitment. Despite these contrasts, aspects of both andragogy and pedagogy were evident in the ways the coach described her approaches with

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the two cohorts. Findings suggest that the APM in this specific sport context may be flexibly applied and its principles adapted in ways that respond to both youth and adult athletes' learning needs depending on the situation. Discussion focuses on how the sport context may serve as an appropriate medium to make conclusions regarding the practice of adult learning.

Résumé

L'art de l'enseignement scolaire présente des similitudes avec l'entraînement des athlètes (Jones, 2007). Les recherches montrent que les athlètes adultes, ou « masters athletes » (athlètes vétérans), pensent que leurs entraîneurs devraient adopter des approches différentes de celles utilisées pour entraîner les athlètes plus jeunes (Callary, Rathwell et Young, 2015; Ferrari, Bloom, Gilbert et Caron, 2016). Les préférences des adultes en matière d'approches d'entraînement reflètent les principes d'apprentissage clés du modèle d'andragogie (Knowles, Holton et Swanson, 2012). L'objectif de cette étude de cas instrumentale était de comprendre si et comment chacun des six principes andragogiques (c.-à-d. d'apprentissage adulte) est représenté dans le discours d'une entraîneuse de canot/kayak âgée de 30 ans lorsqu'elle décrit la différence entre son approche pour faciliter l'apprentissage de son groupe d'athlètes adultes et celle utilisée auprès des jeunes athlètes. L'entraîneuse a participé à trois entrevues semi-structurées de 90 à 120 minutes. Les notes d'observation de situations d'apprentissage prises lors de l'observation de séances d'entraînement d'athlètes adultes ou d'athlètes plus jeunes ont orienté les questions posées lors de la deuxième et de la troisième entrevue. Les résultats de l'analyse déductive montrent que les approches employées par l'entraîneuse avec les athlètes adultes étaient largement andragogiques, surtout en ce qui concerne la capacité de répondre à la nature curieuse des adultes, de favoriser l'autonomie et de reconnaître les motivations intrinsèques des athlètes. Avec les jeunes athlètes, les approches de l'entraîneuse ressemblaient plus à la pédagogie traditionnelle : elle orientait la transmission des informations, limitait l'autonomie et la prise de décision de la jeune personne pendant l'entraînement et jugeait que les motivations plus extrinsèques et compétitives étaient plus importantes pour leur engagement. Malgré ces différences, à la fois des éléments d'andragogie et de pédagogie étaient évidents dans la description de l'entraîneuse de ses approches auprès des deux cohortes. Ces résultats suggèrent que le modèle d'andragogie, dans ce contexte sportif précis, peut être appliqué avec une certaine flexibilité et que ses principes peuvent être adaptés de manière à répondre aux besoins d'apprentissage des athlètes adultes et des athlètes plus jeunes, selon les circonstances. La discussion se penche sur le potentiel d'utiliser le contexte sportif comme cadre approprié pour tirer des conclusions sur les pratiques d'apprentissage adulte.

While there is a rich convention of studying adult learning principles and best practices in the context of traditional education, adults' learning experiences in sport have been largely understudied and ignored, while youths' learning experiences in sport have prevailed. This is concerning considering that adults or masters athletes (MAs) represent the fastest-growing cohort of sport participants in many Western countries (Weir, Baker, & Horton, 2010; Young, Bennett, & Séguin, 2015). An understanding of how adult learning principles can

benefit sport coaching is important, yet one cannot simply conclude that adult learning practices in education generalize to sport coaching. Indeed, there is an implicit assumption that coaches can use the same approaches for coaching (teaching) adults as they do with youths (Coaching Association of Canada, 2013), yet no research has refuted this claim, despite its practical fallacy. Understanding the differences in coaching approaches between adults and youths is therefore worth investigating. Using a learning framework to explore these differences is fruitful, since teachers within the education system and coaches within the sport system similarly seek to develop their learners' (or athletes') capabilities and have critical roles in orchestrating the learning environment (Jones, 2007).

Literature Review

Andragogy in Practice Model

Adult education theorists hold that adults approach learning in different ways than young people, and educators should be mindful of specific practices for the development of adults within their discipline. According to Knowles, Holton, and Swanson (2012), andragogy is the art and science of helping adults learn. They noted that adults' learning is optimized when teachers use six andragogical principles. According to the first principle, *the learners' need to know* (1), adults seek to understand how their learning will be conducted, what will be learned, and why learning the content is important. Thus, adult educators may engage the learners in a collaborative planning process for their learning. *Within self-concept of the learner* (2), adults generally want to be treated as being capable of self-direction and autonomy. Adult educators may therefore create situations that provide learners with opportunities to self-guide and shift from dependency to self-directedness. Adult educators should also be mindful of the *prior experiences of the learner* (3), including how the volume and different quality of adults' past experiences may serve as a rich resource for learning and may impact the ways in which adults seek to learn. Adult educators consequently may help learners examine their habits and biases while still emphasizing the value of such experiences. Adults also have a *readiness to learn* (4) when responding to a deficit in knowledge presented within a specific life situation. Adult educators are therefore tasked with creating learning situations that support the learners' needs while helping them bridge a knowledge deficit. Further, adults have an *orientation to learning* (5) that is life- or problem-centred as opposed to subject-centred. Adults learn most effectively when they understand how learning can help them deal with problems or improve personal weaknesses. In response, adult educators may orient learners' attention toward task-solving activities that are personally relevant in broader authentic and meaningful situations. Finally, adults' *motivation to learn* (6) is often driven by internal pressures and can be conceptualized as the sum of four factors: success, volition, value, and enjoyment. Adult educators who are cognizant of the importance that adults attribute to these factors may facilitate situations that incorporate elements of each. To guide the application of andragogical principles within various learning situations across multiple domains, Knowles et al. developed the andragogy in practice model (APM), which framed the principles within a consideration of individual and situational variables, as well as the learners' goals and purposes within those situations (see Figure 1). In this way, Knowles and colleagues noted the model's application not only for adult populations generally, but also for understanding how teachers might effectively help individuals learn

in different situations, with individual differences, and with respect to each individual's goals and purposes for learning. Further, Knowles et al. noted that andragogy and pedagogy exist along a continuum from learner-centred to teacher-directed (the latter akin to what they described as traditional pedagogy), whereby the principles might be used flexibly, potentially even with younger learners (Knowles et al., 2012).

Andragogy reflects learner-centred approaches, representing a movement away from the directed, teacher-mediated styles of traditional pedagogical approaches where learners assume a dependent role. Knowles et al. (2012) suggested that traditional pedagogical assumptions hold that learners have little to no experience, are ready to learn to advance their standing, and are motivated to learn by external pressures such as grades or certification. Pedagogical teaching practice is referenced in a traditional education context (i.e., the student and teacher dynamic, where the students sit in rows and the teacher stands in front leading them through learning material) (Knowles et al., 2012). Contrarily, andragogy holds that learners yearn to be responsible for their development, leverage a wealth of experience,

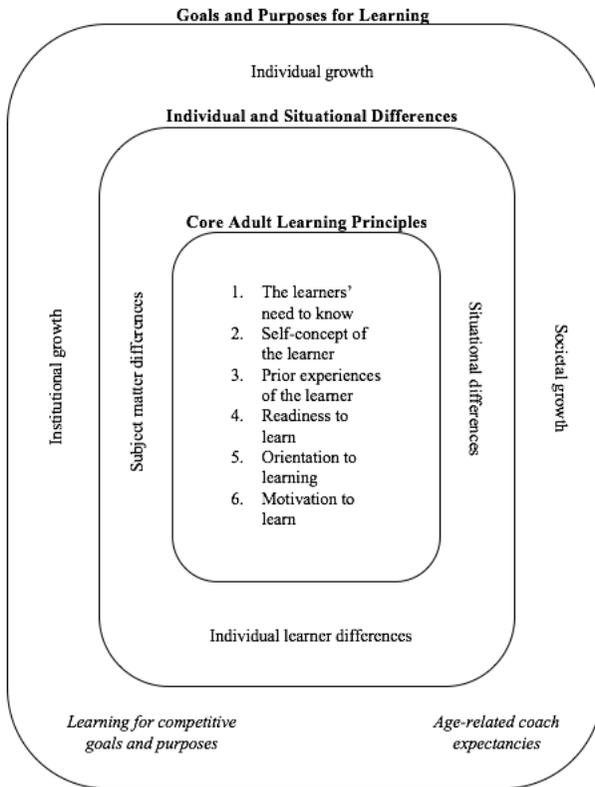


Figure 1. Andragogy in practice model (Knowles et al., 2012). The model has been modified to include two italicized sport-specific features based on our findings: *learning for competitive goals and purposes* and *age-related coach expectancies*.

and are ready to learn in response to gaps between where they are and where they want to be (Knowles et al., 2012). A critique of andragogy, however, holds that youths may benefit from teachers using andragogical approaches and that traditional pedagogical approaches may also benefit adult learners depending on their situation (Merriam, Caffarella, & Baumgartner, 2006), dispelling notions of a strict andragogy–pedagogy dichotomy.

Coaching Masters Athletes

We elected to examine the APM as a framework for better understanding coach-facilitated learning situations, primarily because of its fit with emerging findings in research on adult sportspersons and the ease with which its principles can be flexibly analyzed. While MAs describe preferences for approaches to sport coaching that account for their unique psycho-social profile as mature adults (Callary, Rathwell, & Young, 2015, 2017; Ferrari, Bloom, Gilbert, & Caron, 2016; Morris-Eyton, 2008; Rathwell, Callary, & Young, 2015), no research has examined how coaches might change their approach for adults compared to their approach for youths. Collectively, the aforementioned research studies explored only the coached adult sport context, describing qualitative findings from the perspectives of MAs who were formally registered in a sport club, were typically over 35 years of age, and were training to prepare for competition (Young, 2011). The research indicated that MAs prefer specific coaching approaches that are athlete-centred and that differ from those used with youths, yet the nuances in these different approaches have yet to be uncovered. Callary et al. (2015) described how masters swimmers appreciated coaches who provided organized but flexible practice schedules, fostered accountability to sport, and considered their adult status when giving feedback. Callary et al. (2017) further noted that coaches who reported using andragogical approaches seemed to work more effectively with their MAs, while approaches that countered the principles created a disconnect between the coaches and MAs. Across these studies, MAs' sport participation appeared to be enhanced through involvement with a coach, resulting in benefits for learning (skill acquisition), social affiliation, and health, as well as competitive performance benefits that many MAs valued highly. Beyond these studies, psycho-social elements of coaching adult athletes have been largely unexplored.

Differentiating between Coaching Adults and Youth

It is often assumed that similar coaching approaches can be used with adult and youth athletes and that coaches working with both cohorts do not need to consider ways to differentiate their approach (Young, Callary, & Niedre, 2014). Yet teacher-centred methods of instruction that appear to greatly diverge from andragogical principles have predominated in youth coaching (Ford, Yates, & Williams, 2010; Light & Dixon, 2007), where coaches maintain control over the youths' training and almost always dictate its structure and progression. Similarly, there has been a plethora of literature in the physical education domain suggesting that learning activities are often highly structured and monitored and that teachers decide the content and progression of learning (e.g., Rink, 2010; Siedentop & Tannehill, 2001). Evidently, teacher-centred or coach-directed approaches are often evidenced in youth sport because coaches are hesitant to provide decision-making opportunities (Light & Robert, 2010). Taken together with the studies exploring coached adult athletes (e.g., Callary et al., 2017), this suggests that coaches may need to adapt their approaches between the two

cohorts. Given that more learner-centred, autonomous approaches align with adult learners' needs (Knowles et al., 2012), and that there has been a call to explore learner-centred contemporary models in sport coaching (Ford et al., 2010; Light & Dixon, 2007), we seek to use the APM to guide our analyses and provide a fruitful age-cohort comparison. Thus, we propose that deciphering nuances in coaching practice between a youth cohort and an older cohort might help us to understand the applicability of adult learning principles in the sport domain, given parallels between the art of coaching athletes and teaching students (Cushion, Armour, & Jones, 2003; Gilbert & Trudel, 2001; Jones, 2007). Accordingly, this study aimed to understand if and how each of the six andragogical principles were evidenced in a 30-year-old female canoe/kayak coach's perceptions of her approaches with her MAs and youth group, and whether these principles manifested differently between the groups. We sought to understand whether conclusions regarding the practices of adult learning in education hold true with respect to learning in sport.

Method

An instrumental, case study methodology (Punch, 2013) was followed to attain rich detail related to one coach's approaches. We chose to employ this methodology to gather an in-depth, between-cohort comparison of the approaches and perspectives of one individual coach working with two separate age cohorts at the time of the study. Ethical approval for all procedures was granted from the host university's research ethics board prior to recruitment.

Participant

The coach was recruited and selected based on specific criteria. First, the coach needed to be coaching both youth/adolescent athletes and MAs, interacting sufficiently with each group separately at different times. Additionally, we sought a coach with at least five years of experience working with each age cohort, and one who was committed to the process of learning. This devotion could be evidenced through formal coach education training, engagement with communities of practice or mentors, or acknowledgement of practice reflection.

Our participant, who was well known within her coaching community, completed a personal information survey during recruitment to ensure she fit the criteria. At the time of the study, Janice (pseudonym) was a 30-year-old canoe/kayak coach at a club in eastern Canada. She had previously competed in the sport in youth/adolescence for 10 years, and at the time of the study was competing in her fifth year as a masters kayaker. She was a certified competition-development coach through the Canadian National Coaching Certification Program (NCCP) and held a master's degree in sport psychology and coach education. She had coached MAs intermittently for 14 years and youth athletes for nine (full time for the past four years). At the time of the study, Janice was coaching 15 masters canoers/kayakers (27 to 70 years old) for 11 months per year, one to three times per week for a total of two to six hours per week. The structure of the club's age divisions required that athletes 25 years of age or older join the masters group, hence the wide age range across MA participants. She was also coaching 15 youth athletes (14 to 15 years old) for 12 months per year, eight to ten times per week for an average of 10 hours per week.

Janice's club advertised competitive, structured training for both youths and MAs. However, she perceived the competitiveness of the groups differently. On a scale of 1 (not at all competitive) to 5 (very competitive), Janice described the competitiveness of the training climate within which she coached as being a 5 for her youths and a 2 for her MAs (although both cohorts attended national competitions). She coached at six regattas and one national championship for her youth athletes, but at only two competitive events for her MAs.

Finally, Janice described how she would often reflect on each practice. She regularly reflected on the workout's appropriateness, asked for program feedback from other coaches, sought resource books, and partook in a female mentorship program. In sum, Janice was a suitable candidate because of her coaching experience and background, the cohorts of athletes with whom she worked, and her club context.

Data Collection

There were three in-depth interviews with the coach, each lasting between 90 and 120 minutes. The principal investigator (PI) also engaged in four participant observation sessions where he watched coached training sessions—two with the MAs and two with the youths.

Interview 1 was conducted in person and commenced the data collection process. The following day, the PI engaged in two participant observation sessions (one for each age group) to inform Interview 2, which was conducted on Skype five days later. The two remaining observation sessions occurred one week later, followed by Interview 3 on Skype five days after those sessions.

The interview process followed a progression from a very open-ended approach in Interview 1 to a mix of both observation-governed and structured questions based on the APM framework in Interviews 2 and 3. This initially allowed Janice to speak openly during Interview 1 about her philosophies and broad coaching styles with her MAs and youths, the types of drills she chose with each group, and what it was about those cohorts that propelled her toward various coaching decisions, before responding to explicit questions on elements of the APM in later interviews.

Prior to conducting Interviews 2 and 3, participant observation was used to make notes of the types of learning situations Janice facilitated in her practices. Assuming the role of a moderate participant observer (Spradley, 1980), the PI sat with Janice in her motorboat, documenting observations of specific situations she was facilitating. The PI organized the notes categorically on the basis of how they aligned with Knowles et al.'s (2012) six principles. The Interview 2 guide was constructed shortly afterward, using the PI's field notes of observed learning situations to inform probing questions. For example, all observations that the PI saw as related to the *learners' need to know* were housed within this category, and the interview questions were organized sequentially to ask all questions within one category (principle) before moving to the next. The use of documented field notes of actual learning situations ensured that subsequent interview probes pertained to situations that had been experienced by Janice, the athletes, and the PI.

Interview 3 followed another set of participant observation sessions, again using field notes to guide questioning. These observation-governed probes helped to uncover Janice's justification for taking such approaches and to probe whether she used the same approach with the other age cohort. Interview 3 was tail-ended with questions that probed directly

about Janice's use of each of the six principles to saturate all information within each deductive category.

Each of the three interview guides was piloted with four coaches prior to data collection. The translation of field notes to interview questions was also piloted and refined based on participant observation sessions of MAs and youths prior to two of the pilot interviews.

Data Analysis

Interview data were audio-recorded and transcribed verbatim using InqScribe (2015), resulting in 70 single-spaced pages of data, before being imported into QSR NVivo8 software (NVivo, 2008) for analysis. Data were deductively analyzed using a six-phase thematic analysis process (Braun & Clarke, 2006). First, the PI read and re-read the transcripts to familiarize himself with the data, noting in the margins any interesting features of the content, especially related to the APM. The formulation of coded data into themes was predicated on their fit with one or more of the andragogical principles. Any quote placed in multiple categories was further discussed among the three authors to reach consensus about which principle it best represented. After all data were initially coded, all authors reviewed the coded data to ensure a clear storyline could be derived within each theme and the entire data set, with respect to the APM. To further ensure credibility and trustworthiness of the data, Janice was provided with each interview's transcript and was given the opportunity to modify any responses. For all three transcripts, she specified no changes.

Results

Six higher-order categories pertaining to each of the six andragogical principles (see pp. X-X for descriptions) are presented below with quotes that illustrate Janice's approach with her MAs and youths. Certain quotes directly compared the MAs with the youth cohort; we juxtaposed the two cohorts in those instances to illustrate the explicit age-group differences.

The Learners' Need to Know

Janice explained that her MAs consistently sought a wealth of information from her regarding proper skill execution. In return, she provided much individualized instruction tailored to the adults' fitness and skill level. Additionally, Janice often clarified and repeated specific procedures to her MAs because she felt they used her restated explanations to validate whether their approaches were sound. Janice also directed questions back to the MAs to gauge their level of understanding: "When MAs ask me questions, they want to know if they were doing it properly, and if they weren't, I'll explain how they can execute it. Sometimes I'll ask them, 'What did you think I meant?'" Janice was mindful of the difference in each MA's need for technical direction, instruction, and clarifications. In particular, she worked to satisfy the athletes' need to know based on their personal goals.

Janice explained how she anticipated questions from the youths while introducing novel elements to their training. She understood the youths' need to know as being correlated with what they had already learned: "On Saturday, I was going over different changes and they were like, 'Wait, I didn't know that,' and they're all [suddenly] listening and talking. So, if it's something new, they want more [clarification]." However, in situations within which the information was not new, she stated: "I ask the athletes to perform drills every practice. If it's the fifth time they're going to do that drill in the week, I won't explain why."

Janice noted that youth rarely engaged in mutual conversations with her because they were uncomfortable approaching her with questions. Cognizant of this, she did not wait for their prompt. Instead, she dictated their need to know by actively intervening with information she felt they required:

I have to pull [their thoughts] out of the youth. They don't come up to me as much. Their parents will tell me, "Oh my gosh, he's been so nervous." So then I really make a note to go up to the individual and see what I can do to help.

We saw some distinct nuances in how Janice navigated the athletes' need to know with the two cohorts. She used key directive points with MAs to remind them about what they should focus on for proper technical execution. This *informational approach* was used to respond to adults, who Janice saw as inquisitive and detail-oriented: "[MAs ask], 'Why am I doing the pause drill?' and I'll let them know that 'You were rushing your setup' or 'Your timing is off and I want you to slow things down.' It's an education piece." Alternatively, Janice appeared to communicate instruction to her youth athletes in a strategic, *motivational manner*. She explained training prescriptions to remind the athletes why a commitment to the training program was key to their success: "Motivation [in the youth] runs thin in the middle of the winter, and that's when explanation of why we're doing things comes back into play." Further, Janice was careful not to provide MAs with instruction beyond the boundaries of the sport unless they asked for it. She viewed MAs as independent individuals and placed the onus on them to approach her with any questions or concerns not directly related to her coaching duties. However, with youth, she did not hesitate to volunteer her advice directly. She said: "I would not have conversations [about issues outside of the sport] with MAs. With kids, I'm giving them advice before they ask." Finally, Janice considered her MAs as "deliberators" who reflected and sought information from her to execute the drill effectively and safely. Contrarily, she acknowledged her youths as being far less reflective, often responding to her direction through immediate action without question. For example,

Some MAs didn't understand the "wobble" drill. They said, "You're telling me to wobble, but what does that mean?" And I'm like, "Just slide around on your seat." And they said, "But I'll tip." They think so much about things, whereas kids are like, "You asked me to do that, okay, I'll do it."

On the whole, Janice described how MAs more actively approached her for information, especially in sport situations that pushed them to the margins of their comfort zone. Whereas she perceived that MAs needed to know technical information based on their questions, Janice often opted for a motivational approach with youth athletes, giving them information as a means to keep these athletes driven to meet the demands of training. Within the boundaries of sport, Janice actively exchanged information with MAs to meet their need to know, yet acknowledged reluctance from youth that curtailed such frequent exchanges. Beyond sport boundaries, Janice believed she needed to lessen her directed informational role with MAs, yet she offered advice openly to youth even when she was not asked.

Self-Concept of the Learner

Janice worked to accommodate what she saw as the MAs' desire to be autonomous in their decisions to train—for example, by acquiescing to their preferences to choose when they wanted to paddle outdoors. When MAs determined it was too cold to train outdoors, Janice would oblige: "We want the masters to keep coming, we want their membership, and we want them to be happy. I'm not going to force a 60-year-old to paddle in the cold if they don't want to." Janice also noted that a portion of the MAs followed her guidance, while others did not:

Yesterday, I encouraged the masters to execute a start or two up to a race speed because they had a specific time control workout. A handful of athletes were really appreciative and valued that guidance. However, a couple just pushed off the dock and went straight to the start line [without doing what I asked]. I was like, "All right, whatever works for them."

With youths, Janice was able to authoritatively execute her training plan without athlete input, but within that plan, athletes were still able to self-direct at times, notably during off-season training:

In the fall, I'm [in the boat] by the swim dock, and [the other coach] is by the bottom of the islands. When the kids paddle by, we will yell a command. We just tell them to switch gears every half lake. So, yes, I had to teach them how to do that [at some point in the past] and I always have to remind them to "turn early." [But] in the fall, I'm mostly a safety boat [laughs]. I'm coaching, but it's totally self-directed. [I say], "Guys, the workout is 12 or 15k." And these kids do it [on their own].

Janice also felt she had to reinforce to her youth athletes the importance of taking initiative in training. She taught them to assume a more self-directed approach in learning situations by reminding them that they are not always required to wait for her prompt before carrying through with training procedures (e.g., warm-up or cool-down). Despite granting them room to self-direct in certain situations, Janice felt as though the youths lacked the maturity to do so in unsupervised environments. She acknowledged, "I don't think I could trust my [youth] group to run a practice. Would they do it properly? No, not really. *They're self-directed [but only] when we're watching them* [emphasis added]." Thus, Janice provided the youths self-directed opportunities, but only within specific training situations that required less demand and supervision from her.

Janice took a different tack in the development of her training plan depending on the age cohort. She more readily invited feedback from MAs in her planning because their recommendations were considered realistic and often in line with her expectations for the group. Janice could not permit the same degree of latitude to her youths because she predicted that the athletes would not respect the integrity of the competitive program she had set forth:

If I let kids decide what they wanted to do, they'd play "capture the flag" all day. Nothing would get done. And masters do want things to get done, so I let them [choose what to do] sometimes. Their feedback is heard.

Janice appeared to make overtures to respect the MAs' mature and capable self-concept. Specifically, she was keen to offer the MAs rationale for her decisions, which she believed allowed them a degree of shared control over the planning of training. For example, when making "crews" (or teams of athletes who paddle together in the same boat), she said, "We'll be sure to explain to them why [we've made those decisions], and if they say, 'We don't work well together,' we'll listen to that." On the other hand, Janice noted an absence of the same collaborative conversations with her youth athletes. She often provided all directives up front, which resulted in a very controlled dialogue within which the youths often had no decisions to make.

With youth, their questions are 90% the same: "How hard?," "How much rest?," "How many sets?," and "Where do we meet?" So I tend to try to just make sure I cover all those points. If it's all explained [up front], they don't have any questions.

In sum, Janice expected MAs to have the maturity and ability to self-direct, and she allowed them to do so to a greater extent than she did with the youth athletes. She also described working to include MAs collaboratively in conversation and decision making, applying a flexible approach to training that was not evident within the youths' structured program.

Prior Experiences of the Learner

Janice considered her athletes' prior experiences, but exclusively with respect to motoric domains. She described how some of the adults' prior sport experiences made it difficult for them to change their paddling technique. She explained, "When the masters learned to paddle, they developed certain habits and they're hard to come out of. They can't change their habits because they don't have the skill; they'll just tip." She also believed that many MAs *lacked* adequate prior motor experience and were therefore unable to easily transfer the coach's direction to technical paddling execution. For these athletes, she felt their lack of prior motor skill meant they could not improve as readily as the youths.

With youth athletes, Janice did not describe instances involving a lack of prior motor skill. Instead, she noted occasionally that she needed to consider motor skills they had learned from previous coaches. Without contradicting their prior learning, Janice used these experiences to help them better understand technique. She highlighted alternative ways to achieve skill mastery, allowing the athletes to recognize the value of their prior experiences within learning situations:

Youth tend to be coached by different coaches [prior to working with me]. So I made a note to never contradict another coach, but to ask an athlete, "Hey, do you want to explain to me what it is that you were working on and how you came to have that skill?" They'll say, "Oh, this coach told me to do it." And I'll say, "All right. Do you know why?" We'll just have a dialogue.

Thus, Janice appeared to assume very low estimations of the transferable prior motor skill that her MAs brought to learning situations. She did not describe any strategies to tap into her MAs' motoric history, nor did she appear to explicitly value their prior motor learning experiences, often seeing these experiences as hindrances to be overcome. Further, she did not describe making any efforts to use their knowledge derived from other non-motoric

(e.g., cognitive or emotional) experiences to help them learn. On the other hand, she did take steps to recognize her youth athletes' experiences and considered them rich resources for current learning.

Readiness to Learn

Janice equated readiness to learn with two very different concepts between the two cohorts: the amount of time athletes were able to attend training, and their degree of "coachability" (i.e., the ability to focus on and take advice about what they were supposed to be learning).

In terms of the amount of time that the athletes chose to be with her, she recognized that MAs had personal obligations and non-sport responsibilities that inhibited them from attending practice consistently. Janice did not intervene to question where sport fell on their list of priorities, saying: "MAs have priorities in their lives and those come first. The number of athletes who are consistently here varies." Janice realized that her youths also had other non-sport commitments, although they always attended the prescribed eight practices per week (during in-season training):

I have more time with my youth athletes. They have a lot bigger goals. Not that masters' goals aren't big, but with the youth, it's just a different mindset. Youth have their eyes on Junior Worlds and Canada Games and hopefully a higher competition. MAs want to be the best that they can be and race at the national level, but the time given to the sport is different so that's why things just seem different on the water when I coach them.

Janice perceived that MAs' commitment fluctuated heavily compared to youth, and felt that the degree of attendance impacted their readiness to learn in training. Generally, she seemed to expect sporadic attendance because of the MAs' adult roles. She appeared to place greater importance on the youths' readiness to learn, as evidenced by their attendance at practice, because of expectations for competitive success that did not exist for her MAs.

Despite MAs' constraints on their investment in practice, Janice noted that, when present, they were highly "coachable" athletes and were ready to learn: "MAs have this ability to manage their time efficiently, they're goal-oriented, and they have a great work ethic. They're giving 100%. They are hardworking individuals and they care. [When] they come [to practice], they're ready to work." On the other hand, Janice noted some youth athletes' inability to focus as a factor limiting their readiness to learn. For those individuals, she structured her conversations in ways to enhance their focus, as opposed to directly addressing technical issues:

If a youth who has discipline issues is talking [distractedly] every single practice and my expectation is for them to not speak and to do the work, that's what I want them to learn. And it sounds kind of silly to say that an individual needs to focus on discipline throughout a practice, but a lot of them are not focused, because they're kids.

Furthermore, Janice noted that, unlike the MAs, her youth athletes were sometimes disrespectful about how they might learn from her: "Masters don't question the program or the work, in terms of, 'Oh, I don't want to do it.' Kids do that." Janice explained that youth used this resistance to test the boundaries of her discipline: "I think that the masters respect the role of a coach sometimes more than youth. I think youth do respect the coach but

sometimes they think they know better.” Janice understood her MAs as being ready to learn more so than her youths based on MAs’ maturity to respect her role and take her advice, to be more “socially” coachable or agreeable to being coached.

In sum, youths spent more time than MAs in the learning environment with Janice, and she expected youths to be there and ready to achieve competitive goals—expectations she did not hold for MAs. However, when at practice, she noted that the youths were not always able to readily focus as well as MAs, appearing as less coachable in terms of taking Janice’s advice.

Orientation to Learning

Janice described using learner-centred questioning techniques with both age groups to actively engage the athletes in learning. By asking them how they felt and what they thought they could do to resolve an issue, Janice empowered the athletes while still guiding them to a solution that she believed was sound:

If I get the MAs to do a drill, I’ll ask them how they felt. And if they say, “Well, it was really tippy,” I’ll be like, “All right, so what can you do differently?” Sometimes it’s just, “What do you think you need to do?”

She continued:

[I often ask youth athletes in crew boats], “How did it feel?” “Oh, well our timing was off for our legs, so we’re going to try this drill.” “Great.” And if they’re wrong, I’ll tell them. I’ll be like, “Actually, I’m going to get you guys to try this.”

Although she used learner-centred questioning with both cohorts at times, there were differences in the ways she used problem-centred orientations to work the athletes through specific issues in training. By piecing together information, Janice walked the MAs in a step-wise manner toward a solution they could understand:

Yesterday, [name of MA] came up to me and said, “I am entered in a 1,000-metre race in K1 (one-person kayak). I’m so nervous, I don’t know what to do.” I said, “Give me three things you need to work on,” and so he listed three things. Then I broke down 1,000 metres, and I placed each technical focus 250 metres apart. It’s like a light bulb went off. He was like, “Oh, that’s great, I got it. That doesn’t seem that hard.”

With the youths, but not with the MAs, Janice helped them work toward technical improvements in training by using varied problem-based strategies, including video analysis, reflection exercises through email, and drills:

These past couple of weeks, we’ve been going through slow motion video individually with each athlete. I send the video to kids throughout the year and I just ask them to email me back with two things [they feel] they’re doing well, two things [they feel] they’re not doing well, and a drill that would work on the area for improvement.

Overall, Janice used the extra time she had with her youths to introduce additional learning tools such as video analysis, which she did not do with MAs.

Motivation to Learn

Janice perceived that she had a role as motivator for her MAs. She fostered a community atmosphere at the training site and provided encouraging feedback depending on what each MA wished to derive from practice. When athletes stepped outside of their comfort zone to try something new, Janice was committed to provide motivating feedback to applaud their efforts. For less skilled or less serious-minded MAs, she often engaged in friendly conversation to allow them to simply feel comfortable in the training environment:

Before practice, an MA will ask me to look out for them because they're taking their "tippy" boat. So after practice, it's all about, "Wow, you did it! I'm so proud of you; that was awesome!" [For] somebody else, it's like, "How did you feel? You looked like you slowed down towards the end." For somebody else that was just there and lined up for the practice but could have gone on their own, it's like, "Hey, how's your day going? What is up?" So they're totally individual conversations [based on what the athlete wants from the practice].

Janice described how she was tasked with understanding when and how to give motivating feedback depending on the nature of the individual and their personal goals. Her feedback was oriented in ways to enhance the MAs' self-efficacy:

With masters, I don't want to discourage them. So I find out what they're working on, [and] I'll let them know that I could tell what they were working on. I had a whole athletic career of being criticized and the reality is that constructive criticism or applause feels really good. So I praise their efforts.

Janice gave motivational feedback to MAs that recognized self-improvement, based on the differing motives of the MAs.

Janice described varying motivational approaches with adults. Whereas she was required to approach conversations differently with each adult athlete, she appeared to view the entire youth cohort somewhat homogeneously as being motivated by ambitious competitive goals:

With MAs, I always want to say it's a leisure activity, but there are some [MAs] that are very intensely competitive so I can't generalize. But the youth are all striving for big, competitive goals; whether they achieve them or not is a whole other thing, but they jump into a pretty competitive program at a young age.

Because of the competitive orientation of the program, Janice explained that she motivated her youth to work harder by constructively criticizing their efforts. She pushed the young athletes, fostered a competitive atmosphere during training, and held lofty expectations for each of the youths. Further, Janice drew their attention to successful role models in the club who had competed at the highest levels, reminding the youths that they were following the same training demands once experienced by each of those accomplished athletes:

Not every kid likes working hard. However, I remind them that it's an Olympic sport and we have a handful of the best under-23-year-old

athletes in the country. They are doing the same things that these individuals did at their age. So it makes their dreams more of a reality [because] they're on the same path, and it's pretty neat to see.

Janice also used a goal-oriented approach by asking the youth athletes what they wanted to derive from their training efforts. She reminded them that their hard work and commitment would allow for the greatest chance to achieve their prospective goals:

I have their goals right there [stored in the drawer]. A lot of them got specific with what they want to achieve from [name of club] and what they want to achieve with my help. We do it four times a year. And if they want to rewrite them, they can; those eager [athletes] have [ambitious] goals.

Consequently, Janice recognized the youths' competitively structured goals and used a motivational approach that catered to and reinforced this competitive orientation. Given that her MAs' goals varied widely with what she saw as a more pronounced emphasis on participatory motives, Janice did not implement long-term goal-setting exercises as motivational tools nearly as readily as she did with the youths.

Discussion

The aim of the study was to describe whether and how the practice of sport coaching differs as a function of the athletic age cohort, with reference to principles in the APM. By contrasting one coach's approaches with youths and adults, we can better understand whether she uniquely applied APM principles (see Figure 1) to adults, as well as how and why she enacted such approaches. This allows us to draw preliminary conclusions about how facets of the APM might inform the coaching of adults. For the most part, our results indicate a distinction between the approaches Janice used with each cohort; she used more andragogical approaches with the MAs and more traditional pedagogical ones with the youths.

Janice considered MAs as active deliberators on learning who would consciously seek and appraise technical sport information to satisfy their *need to know*. This parallels Knowles et al.'s (2012) perspectives regarding adults' need for information prior to engaging in learning activities, and was especially prominent when the MAs were asked to test the boundaries of their comfort zone (e.g., performing novel tasks or tasks that pushed their physical limits). In contrast, Janice considered the youths to be far less inquisitive and reflective, and explained how they often engaged in training procedures simply because she asked them to do so. Janice's provision of information to youth athletes diverged from andragogy: she provided information regardless of their desire for it. She more actively dictated their need to know as opposed to letting the young athletes appraise the content of their learning, which corresponds to teacher-directed pedagogies (Knowles et al., 2012; Siedentop & Tannehill, 2001).

Janice explained how she often orchestrated training situations wherein her MAs could maintain an autonomous *self-concept*. This approach aligns with explicit efforts in adult education programs to build personal autonomy (Knowles et al., 2012) and progressively lessen learners' dependency on the educator (Mezirow, 1981). Janice granted MAs latitude in planning their own learning content based on their needs, thereby reinforcing their

identity as rational decision makers capable of self-direction. She did not, however, give the same opportunities for autonomy to youths. While Janice recognized the importance of providing self-directed situations to youth athletes, she felt that their less mature self-concept constrained her ability to do so readily.

In terms of the athletes' *prior experiences*, Janice somewhat discounted the importance of MAs' prior motor skills, yet with youths, she researched their prior experiences in greater depth and considered whether they were capable of transferring prior motor skills to current situations. This finding runs counter to andragogy, wherein educators are expected to capitalize on adults' broad reservoir of experiences and consider them as rich resources for learning in the present context (Knowles et al., 2012). Given that Janice spoke only of motoric experiences and felt that MAs were not as skilful as youth in this aspect, it is possible that she equated MAs' lack of skill with adults having no prior useable experience. However, the fact that Janice gave no pause to think about how MAs' prior experiences outside of paddling could contribute to their learning ultimately limited her capacity to apply this adult learning principle.

Janice discussed MAs' *readiness to learn* according to their perceived coachability or their likelihood of engaging intently in the coach's practice. This concept relates to andragogy, wherein MAs are able to reflect on what they can do in the present and what they want to be able to do in the future (Knowles et al., 2012). On the other hand, Janice interpreted the youths' readiness to learn based on the amount of time she spent with them in training. Using circular logic, she interpreted they were ready to learn if they spent more time with her being coached. This logic was also predicated on the belief that youths depend on her presence to learn, an assumption that aligns with teacher-directed pedagogies rather than andragogy (Knowles et al., 2012).

Janice considered aspects relating to *orientation to learning* similarly between the cohorts. She assisted both athletic groups through sport-related issues, providing problem-based strategies aimed toward paddling skill acquisition. However, the strategies used with youths (e.g., video analysis) were largely coach-governed and directive, indicative of more traditional or pedagogical modes of instruction. With MAs, Janice more readily acknowledged their learner-centred orientation (Henschke, 2014), implicitly weaving notions of problem solving into situations where she allowed the athletes to provide practice planning recommendations based on their current needs. This corresponded more with an andragogical approach to learning facilitation.

Like their youth counterparts, all the MAs trained regularly to compete in races. In terms of *motivation to learn*, however, Janice largely drew on participation but not competitive-oriented discourses (Tinning, 1997) with MAs. Research on older adult sportspersons shows that participatory dialogue is generally more popular than discourse about performance (Dionigi & O'Flynn, 2007). Janice highlighted elements of inclusion, enjoyment, and fitness in her interactions with MAs, and chose encouraging feedback. These approaches emphasized intrinsically motivating dialogue and are in keeping with the andragogical tenet that adult educators should work to satisfy adults' internal needs to motivate them (Knowles et al., 2012). Alternatively, she implemented a competitive and goal-oriented approach to motivate the youths by drawing their attention to successful competitive role models and regularly prompting them to consider their competitive goals. Overall, motivational approaches among the youths were described more extrinsically and derived from a more pedagogical learning perspective (Knowles et al., 2012).

Coach expectancies—expectations or norms that the coach held for what the different age groups could do and be reasonably asked to do—appeared to have an overarching bearing on how the APM principles were applied. Janice appeared to maintain different expectations for her MAs and youths, differences that may have related to pseudo-ageist assumptions. These assumptions, or differential expectations for the athletes' capabilities, served to constrain the types of situations she afforded them. For example, Janice's very low estimations of competition among MAs, and her discount of MAs as being capable of having adequate prior motor skills and experience, may have reflected unintended ageist biases. Ageist beliefs within masters sport contend that high levels of competition are exclusive for younger cohorts and for professional or Olympic-level athletes (Young et al., 2015). Ageist beliefs may mistakenly convince people that adult sportspersons are motivated exclusively for health, fitness, and social reasons, without acknowledging desires for personal striving, mastery, and competition (Young & Medic, 2011). Ageist beliefs may also preclude a coach from thinking that their older adults wish to be pushed in training. Janice was a relatively young coach (30 years old) working with MAs who were her seniors. As such, she may have facilitated learning conditions differently because of the unintended effect of ageist expectations. In the APM model (Figure 1), how an instructional leader manifests the core principles depends on contextual aspects (i.e., outer ring elements of the model) specifically titled as *the goals and purposes for learning* (Knowles et al., 2012). Although Janice's canoe/kayak club advertised competitive structures for both groups, the goals and purposes for learning ultimately proved to be different based on age, at least in terms of the competitive expectations she described for each age group, which impacted how andragogical principles were accommodated in her coaching practice. We consider the interplay of goals and purposes with the core APM principles to be a key finding and suggest that *learning for competitive goals and purposes* and *age-related coach expectancies* be considered unique sport-specific features in the outer ring of the model, and deserving of more attention (Figure 1).

The heterogeneity or highly variable expressions of competitiveness (Young & Medic, 2011) among adult athletes may account in part for Janice's low estimations of MAs' skilled abilities and her lesser focus on competitive norms with the group. Janice described challenges associated with structuring/planning sessions for MAs given their highly nuanced individual needs—what works for one athlete may not work for another. Therefore, while we acknowledge that there were clear differences in how Janice discussed competitive orientations between groups, her reasons for doing so might have largely been influenced by individual differences, a peripheral ring of the APM (Knowles et al., 2012). The sport context parallels traditional education domains in this regard, where optimal teaching approaches consider the (individual's) purposes/conditions for learning (Beder & Darkenwald, 1982) while also acknowledging that traditional pedagogical and andragogical approaches can both be useful depending on the situation (Brookfield, 1991).

Conclusion and Limitations

There are limitations in the study that might be built on in future research. The case study methodology allowed the approaches of only one coach working in one sport to be assessed. Future work might investigate the approaches of multiple coaches of different genders, ages, and sport types. Additionally, because we assessed only the coach's perceptions, the

athletes' perceptions of her approaches were not considered. Overall, Janice's perceptions of her approaches with MAs corresponded well with andragogical tenets, while those with youths were largely pedagogical. However, a limitation in this finding is that we took an explicitly comparative analytical approach between the two cohorts and, while probing for andragogical principles, we did not probe for evidence of pedagogy. We concur with Knowles et al. (2012) that andragogy and pedagogy may be used on a continuum, in which andragogy as a conceptual framework is not exclusive for adults and pedagogy is not exclusive for young people. We suggest that future research consider a continuum approach in understanding pedagogical and andragogical strategies in coaching.

Despite these limitations, the results indicate that the principles of the APM can be used to frame emerging understandings of adult learning principles within the sport coaching domain. The observation of both the MAs and the youth group in training allowed us to question the coach on her differing approaches and to infer important distinctions regarding how one coach approached her teaching differently with either group, according to APM principles. Indeed, from a landscape perspective, one might see that the coach used andragogical principles with both cohorts, but on closer inspection, there were nuances in the ways that the principles were enacted with the two cohorts that provided important distinctions in coaching these two groups. For example, while affording both groups some degree of self-direction, she was more allowing of the masters group to choose their learning paths.

A flexible, interactive application of andragogy as described by Knowles et al. (2012) appears to be useful in interpreting the practice of sport coaching. To provide additional flexibility and integrity for how the APM might be considered with respect to sport learning and older adults, we contend that contextual features related to goals and purposes for learning and age-related coach expectancies should be considered as important outer ring facets. In the current study, the coach appeared to hold different age-related expectations for both the MAs and youth athletes' skilled, physical, and behavioural abilities, which appeared to ultimately inform her various approaches with the respective age cohorts. In conclusion, while our findings are specific to one coach's approaches, they are the first to comparatively describe how coaching may be different between masters and youth athletic cohorts. These results suggest that continued research studies in this domain are merited. As the APM has served to aptly frame such differences, we submit that future work could continue to investigate how the model could become a useful resource for sport coaches/educators to consider when facilitating age-dependent learning situations.

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