

Coach Education and Learning Sources for Coaches of Masters Swimmers

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Masters Athletes (MAs; adult athletes typically over 35 years old who prepare in order to compete at levels ranging from very recreational competition to serious competition) want coaches to cater their approaches to working with adults. Using Knowles et al.'s (2012) adult learning principles as an educational framework, Callary et al. (2017) found that some coaches cater their approaches in ways to accommodate the manner in which adult athletes uniquely prefer to learn. The purpose of this article is to articulate swim coaches' perceptions of how they learned to work with MAs and whether their formal coach training meets their needs related to coaching MAs. Eleven swim coaches were interviewed regarding how they learned to coach MAs, and were questioned specifically about their coach development broadly and coach education specifically. The data were thematically analyzed and results revealed six main learning sources: coaching experiences (e.g., interacting with MAs, reflection, advice from MAs, coaching youth), experience as an athlete, reading books and Internet searches, networks and mentors, formal coach education, and non-swimming experiences. Results also revealed key themes about coaches' perceptions regarding coach education, specifically the lack of connection between coach education programs and the Masters sport context, and coaches' interest in coach education specific to MAs.

Keywords: coach development, adult athletes, coaching approach, formal coach training

Coach education programs are increasingly moving away from a 'beginner' to 'expert' continuum, and instead recognizing the influence of the coaching context in providing coaches with the education that they seek (Rodrigue, He, & Trudel, 2016). The International Sport Coaching Framework (ISCF) 1.2 (2013) also notes that context and relationships within coaching are significant, defining coaching as "a relational, not isolated, activity" (p. 14), further stating:

Coaches must understand, interact with and influence the settings in which they work. Coaches should therefore, build functional relationships with athletes and the entourage while seeking to implement effective and ethical practice and competition programmes... At the core of a coach's role is guiding the improvement of athletes in sport-specific contexts, taking account of athletes' goals, needs and stages of development (p. 14).

The psychosocial coaching approach outlined in the above-mentioned definition is noteworthy because of the focus on context-specific coaching. The ISCF describes adults as one of

three populations of sport participants (the others being children and adolescents), and notes that,

The needs and motives of people taking part in sport change at different stages of their lives. Coaches' philosophy, knowledge and capabilities need to reflect this in order to maximize the changes of athletes and participants having positive developmental experiences in and through sport (p. 21).

Further, the framework reports that coaches' development should reflect the domain in which they work. Despite the ISCF's recognition of adults as a significant group, there is very little understanding of how to coach adults and how this might be different than coaching youth.

Masters Athletes (MAs; adult athletes typically over 35 years old who follow regular training to compete in sport) are a fast-growing cohort of athletes (Weir, Baker, & Horton, 2010).

Internationally, coach education in this context appears to be limited. In a web search for coach education specific to coaching MAs across several Westernized countries, we found that course-based coach education specific for working with MAs and

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research-based recommendations on appropriate coaching approaches for adult athletes were scant. Specific websites dedicated to Masters Sport mostly included information on events, news, and often included information on age-related physical decline. Some references exist: Sport New Zealand (2017) provides information about athlete development in different cohorts, including the “social adult” and the “competitive adult”. The South Australian Masters Athletics website (2017) includes short professional articles from coaches that delve into their experiences of how to coach MAs (e.g., Sandery, 2003). Nicholson (2004) completed a research review for Sport Scotland that includes a briefing on the adult coaching environment, including tips for coaches working with adult participants. In these applied websites, coaches can find useful information, but they need to firstly know what to look for, secondly where to look, and thirdly how to interpret the information. The internationally recognized Long Term Athlete Development Model (Balyi, Way, & Higgs, 2013), and other talent development models (e.g., Côté, 1999; Durand-Bush & Salmela, 2002) used by coach educators do not specify how to coach adults. As an example of what is available from an organization tasked with coach education, we turn to the Coaching Association of Canada, which is widely recognized internationally as a well-developed national coach education program. It released a National Coaching Certification Program’s (NCCP) booklet on Coaching Masters Athletes (Coaching Association of Canada, 2013). The booklet includes one chapter (2 pages) that refers to “coaching and leading effectively”, which outlines psychosocial approaches. The remaining 18 pages of the booklet refer to physical characteristics, health conditions, and the history of Masters sport. The document states that there is “probably not much” (p. 9) different about coaching MAs than youth, and includes ‘tips’ that are not based on research of MAs and their coaches. Thus, coaches are encouraged to use the same psycho-social approach when coaching MAs and youth.

Several empirical works have uncovered pertinent information about the coached Masters sport context, suggesting that certain aspects of coaching may be very unique to this age cohort. For example, Callary, Rathwell, and Young (2015) established that Masters swimmers believe that they should not be coached like youth, but instead want to be treated as adults with an inclination for coaches who explain their approaches. Ferrari, Bloom, Gilbert, and Caron (2016) illustrated that adults had specific preferences, describing how MAs wanted their coaches to be good communicators, adaptable and organized, and able to teach sport-specific skills collaboratively. Callary, Rathwell, and Young (2017) noted that coaches themselves perceive unique psycho-social approaches in how they interact and help Masters swimmers. MacLellan (2016) conducted a study on one kayak coach who separately coached both competitive MAs and youth groups, with analyses focusing on differences in the coach’s approaches with each group. In particular, the coach noted that she provided greater opportunities for self-direction, questions, and autonomy with adults, whereas she took efforts to direct and control her youth group. The athletes also corroborated the coach’s perceptions, with the MAs expressing how their coach engaged them in collaborative discussions and gave them room to make decisions, while the youth athletes explained how she made decisions for them, and maintained a controlled, competitive environment (MacLellan, 2016).

There is a body of literature on educational principles outside of sport attesting to the specific learning characteristics of adults (see Knowles, Holton, & Swanson, 2012 for a review). This literature describes how teachers can effectively facilitate learning

by taking into account adults’ need to know why they are learning something, while understanding that their readiness to learn is heightened by linking their learning to real life experiences and accounting for their prior experiences in current learning activities. Moreover, this literature describes the value of determining and tailoring educational activities to their intrinsic motives, and considering their matured self-concept and interest in being self-directed and autonomous (Knowles et al., 2012). Callary and colleagues (2017) applied these learning principles to the analysis of Masters swim coaches’ perceptions of how they conduct their craft and how they meet their MAs’ needs. They found coaches were mostly able to articulate how they coached in line with these principles but did not necessarily do so intentionally. Coaching in accordance with adult learning principles is in clear contrast to oft-used directive coaching approaches with youth, in which the coach is the ‘expert’ and delivers top-down technical information to lead athletes to fixed solutions (Vinson, Brady, Moreland, & Judge, 2016). The relinquishing of ‘coach control’ and sharing of power when working with MAs is also starkly contrasted to coaching youth (Callary et al., 2017; MacLellan, 2016; Rathwell, Callary, & Young, 2015). Additionally, coaches of MAs are uniquely tasked with helping adults negotiate the prospect of age-related decline (Young, Callary, & Niedre, 2014). Altogether, the emerging findings derived from MAs’ and coaches’ descriptions of experiences in the coached context of Master sport, coupled with preliminary support for the use of adult learning principles by coaches of MAs, challenge the assumption that coaches do not need specialized and research-based coach education for working with an adult population that clearly has specific needs.

Coaches learn in many ways, with formalized coach education as one avenue of learning (e.g., Cassidy, Potrac, & McKenzie, 2006; Irwin, Hanton, & Kerwin, 2004; Jones, Armour, & Potrac, 2003). Coaches can also seek other sources from which to learn, such as the Internet, books, other coaches, mentors, and other specialists (e.g., Bloom, 2013; Werthner & Trudel, 2009), or learn by ‘constantly thinking’ about, or reflecting, and working through problems (e.g., Gilbert & Trudel, 2001; Taylor, Werthner, Culver, & Callary, 2015; Werthner & Trudel, 2009). Further, coaches’ approaches are influenced from their previous experiences in childhood, adolescence, and adulthood, including experiences as athletes and coaches (e.g., Callary, Werthner, & Trudel, 2011; Erickson, Côté, & Fraser-Thomas, 2007; Gearity, Callary, & Fulmer, 2013; Jones, Armour, & Potrac, 2004). Although a wealth of information exists on how coaches learn, this empirical knowledge pertains to how coaches learn to coach youth or very young adult high performance athletes, with no research focusing on how coaches learn to coach MAs.

Since coaching research has recognized formal coach education training as an important aspect of coach development (e.g., Côté & Gilbert, 2009; Nelson, Cushion, & Potrac, 2013), and since there is a seeming lack of information geared specifically towards coaching MAs, the purpose of this article is to explore swim coaches’ perceptions of how they have learned to coach MAs and whether they perceive their formal coach training to meet their needs in coaching MAs.

Methods

We approached this research with an interpretivist epistemology in which we sought to explore not only the sources of learning but also the meanings that these coaches ascribed to their coach education based on their experiences. We acknowledge that the

Table 1 Demographic Profile Table of Coaches and Their Swimmers

Coach	Age	Gender	NCCP ^a Certification	Years Swimming Experience	Years Coaching Total	Years Coaching MAs	Months Coaching Per Year	Hours Coaching Per Week	Average Age of Swimmers	Competition Level of Majority of Swimmers	Number of Competitions Athletes Attended During Season
Carmen	50	Female	None	40	9	3	10	5	40	Recreational Regional, and Provincial	2
Nicole	41	Female	Level 1	30	10	10	9.5	1.5	40	Regional	1
Ellen	54	Female	Level 3	44	15	15	12	10	47	Provincial	10
Laura	48	Female	Level 1	20	8	5	9	4.5	50	Provincial, National, and International	4
Wayne	66	Male	Level 2	60	50	20	12	11.5	40	National and International	10
Tom	50	Male	Level 1	50	24	19	10	4	43	Regional	6
Emile	36	Male	None	16	13	13	12	5.3	45	Regional	4
Brock	40	Male	Level 2	23	23	23	9	4	47	Regional	1
Dominic	47	Male	Level 2	37	16	12	10	1.5	40	Recreational	1
Armand	67	Male	None	27	6	6	12	2	45	Regional and Provincial	4
Jordan	40	Male	Level 2	29	15	5	12	7	48	Regional and National	2

^aNCCP = Canadian National Coaching Certification Program.

perceptions of these coaches are varied and that we are representing the interpretation of their thoughts, feelings, and behaviours (Gearity, Mills, & Callary, 2016). Within this epistemology, it is also important to recognize our participation as the researchers. Because of all three investigators' previous immersion in Masters sport through research, the personal experiences of two investigators as MAs, and one investigator's role as a Masters coach, we have assumptions about the research that we documented in a bracketing exercise prior to data collection. Namely, we believe that Masters coaches can make a difference in their MAs' performance and that MAs who have coaches want to learn, which arguably requires an educated coach to effectively foster athlete learning. We also noted that coaches may overstate their roles and their impact on their adult athletes. Given that our assumptions played a part in our interview questions and that these questions influenced the participants' answers, it is important to note the co-created process of the findings.

Participants

The authors received ethical clearance from the host institution to conduct the research. Subsequently, swim club representatives in Ontario, Canada were contacted with a recruitment letter and screening sheet to determine eligibility of coaches. Fifteen coaches completed the screening sheet, which asked briefly, among demographic questions, about whether they had any coach education, the number of years they had coached MAs, as well as how often they coached MAs. Eleven swim coaches (4 female, 7 male) from six different, competitive clubs were deemed eligible based on having coached MAs for over three years and having some form of coach education. These minimal criteria were important to ensure the coaches had sufficient experience planning for, and reflecting upon the coaching of adults, and to ensure they had participated in formal coach education, giving them a perspective to further discuss such opportunities (or their absence) with respect to Masters sport. The coaches ranged in age from 36 to 67 years old ($M = 49$), with between three and 20 years of experience coaching MAs ($M = 12$). All coaches presently coached MAs and seven coaches also had previous or current experience coaching youth. The coaches were not screened for coaching effectiveness, as the goal was to understand how typical coaches of MAs have learned specifically to coach adults. The coaches were all affiliated with clubs registered with Masters Swimming Canada and Masters Swimming Ontario, the governing bodies for the sport (see Table 1 for details).

Data Collection

Interviews followed a semi-structured guide with four parts. Part one dealt with demographic-type questions regarding coaches' experience swimming and coaching. Part two asked about the coaches' reasons for coaching MAs. Part three asked the coaches about what they perceived that MAs wanted and needed from them, if they tried to meet those needs, and if there were any special ways that they coached this cohort differently than youth. These data were analyzed and presented in XXX (2017). Within part three, but not analyzed previously, the coaches were also asked after each question how they had specifically learned to coach adults and to provide examples to illustrate their answers. Only those sources brought up by the participants themselves were probed. Part four delved into coach education, asking coaches whether they perceived that it was important to have coaching certification to coach MAs, whether they perceived that their MAs cared whether they

were certified or trained, whether they had received any training or education in working specifically with MAs and if so, how this might have helped them. Within the Canadian context, it was relevant to ask the coaches how they judged the utility of the National Coach Certification Program (NCCP) in learning to work with MAs, as all formal coach education opportunities are linked to the NCCP, coaches are mostly required to have NCCP training, and it is known as a long-standing pan-Canadian system of formal coach education. Further, coaches were asked whether they had taken any additional steps to gain more knowledge or skill to become a more effective coach for MAs (with examples). They were asked to pinpoint experiences from which they had learned to coach MAs, from whom they had learned, and to provide examples of how they had learned, whether they shared information/strategies with others, whether they reflected on their coaching practice and what they learned as a result. Finally, they were asked if they had any coach education needs for coaching MAs. Interviews lasted on average 74 minutes ($SD = 19.34$, range = 50-120). As XXX (2017) have presented that these same coaches did indeed perceive that MAs wanted and needed specific coaching approaches that were in line with adult learning principles, the focus of the current publication was on the sources of their own learning and needs for coach education in this context.

Data Analysis

The interviews were audio-recorded and transcribed verbatim generating 256 pages of single-spaced transcripts. Each coach was sent a copy of their transcript and given the opportunity to modify, add or retract any text. Pseudonyms were assigned to the coaches. Using Braun and Clark's (2006) guidelines for thematic analysis, the first author read and re-read all transcripts. The first-author developed initial codes and notes in the margins to understand how the codes fit with existing research regarding coach learning situations and to tease out coach perceptions regarding coach education specifically. The third author read a marked transcript at random, which included the first author's notes and initial codes. The two researchers discussed the codes to come to consensus on any disagreements. Subsequently, all transcripts were coded in QSR NVivo qualitative analysis software. After review, two higher order themes were developed: a) sources of coach learning (depicted in Table 2), and b) perceptions of coach education. Within the first higher order theme, we created 11 codes that were then collapsed into six second-order themes with third-order themes that reflected common sources of learning. We recorded the number of coaches who discussed the various themes regarding learning sources to show relevance of these themes. For the other higher order theme, we created two second-order themes describing perceptions of coach education. All the coaches' voices were taken into account within these themes. Finally, all three researchers reviewed the quotes pertaining to the second- and third-order themes to determine their suitability within the themes.

Results

The findings describe a) the various sources from which the coaches report having learned to coach MAs, followed by results of our analysis of b) the coaches' perceptions of the lack of connection between coach education programs and their specific context, and their expressed interest in coach education specific to MAs.

Table 2 Results Pertaining to the Higher-order theme Entitled ‘Sources of Learning’

Coaches are learning information pertinent to coaching MAs from ... (second-order theme in italics) (third-order themes bulleted)	Number of coaches who spoke of learning from source
<i>Coaching experiences</i>	
• Coaching MAs	11
• Reflection on experience	10
• MAs’ expertise	4
• Coaching youth	4
<i>Swimming experience</i>	10
<i>Reading books/Internet searches</i>	10
<i>Other coaches</i>	
• Networks	10
• Mentors	4
<i>Past or current experiences outside of swimming, applicable to coaching</i>	7
<i>Coach education</i>	
• Formal education (including coach certification courses)	7
• Conferences or clinics	6

Sources of Learning

Coaches spoke of learning to coach MAs from a number of different sources. Table 2 indicates the number of coaches who spoke about the various learning situations that they found pertinent to helping them coach MAs. Not all coaches spoke about all sources, and there was a clear emphasis from most coaches on learning from coaching experiences.

Coaching experiences. Every coach talked about learning from their experiences *coaching MAs*. Brock described his interactions with MAs:

It’s trial by error, right. If you teach and teach, you get to know how people respond to your teaching . . . What works on someone won’t work on the other one because they have a different way to process the information, especially when you’re in the water.

Carmen talked about learning from observing her MAs, being given tips from her MAs and engaging in back and forth questions with her swimmers to better understand what they want. Similarly, Wayne noted “I learn something every day from MAs. I watch them, observe them, I listen to them . . . I hold them accountable so that we get three hundred athletes basically injury free.” Dominic (aged 36) provided a specific example of how he learned, through interactions with MAs during practice, that they wanted to know how and why they were training:

Through my experience, I learned that they prefer [knowing why]. I was quite a bit younger than the average MA when I started coaching them, but I realized they were asking ‘why’ a lot. I was spending a lot more time on the verbal communication than I had with children [swimmers].

Learning from experience was particularly important for coaches who were younger than the MAs, because it was hard for them to use their own experiences as a guide, and thus they relied on assessing what their MAs were experiencing in training. One coach talked about how his MAs would have seen his own development. Emile said,

I have learned so much from the swimmers themselves, just by [the athletes] providing feedback early on, they were able to suggest ways for me to coach differently. As I was a fairly young person with no coaching experience, I was able to listen from their point of view, what worked, what didn’t work, what was good, what wasn’t good. That evolved my coaching . . . These people have seen me grow essentially from being a young, twenty-something year-old to now married and a father of two, maturing over that period of time.

Ten coaches talked about *reflecting on their experiences* at practice, and learning from thinking about what they had done. Carmen explained: “I always take notes during the workout, so many adjustments I need to make. I also write down any suggestions from the swimmers. Going forward, that’s something I like to think about . . . I learn and modify for next time.” Tom said:

At the end of the day, [my wife who is also a coach] and I, just before we go to sleep, we’ll talk about our swimmers and what happened, what worked, what didn’t work, any feedback . . . I try to make things make sense in the long term. I think about or reflect upon why [I just did something].

Wayne said:

Every practice I reflect. As I’m driving home, I think of whether practice was good. I do a little checklist and then I just put it on a shelf. My reflection period is immediately after, it’s not prolonged during the day . . . The athletes provide the means for me to carry on and extend my learning.

Reflection was typically not deep or prolonged, it occurred mostly on their practices, with some coaches even admitting that they rarely reflected. Emile said, “I’d say I barely reflect. If I were in a full-time, highly competitive organization, then I think it would likely necessitate reflection. However, our club is more social and relaxed”. Jordan had a similar account: “Do I reflect on my practice? I do. Not a lot. It’s the time constraint. Maybe five minutes in practice, I’ll ask the swimmers, ‘was that hard?’ But I don’t sit at home and reflect.” The coaches’ lack of reflection or its

lack of depth was juxtaposed to the importance they placed on learning from their experiences with their MAs.

Four coaches talked about *learning from their MAs' expertise* outside of swimming. Armand said, "I call upon the few experts we have. We have a few doctors, a few physiotherapists". Tom continued on that vein: "I ask [physiotherapist MAs] and they help me with what we can do to help others. Should that person stop swimming? Should they stretch? What's going on this month – everybody is getting cramps in their calves, why?" Likewise, Ellen said:

One of the people that I coach is a neurologist. Sometimes when someone's learning to do a flip turn they will complain that they get really dizzy. So I talked to him and he was able to explain to me why this happens. That was really interesting to me.

While coaches appeared to value MAs' knowledge, there was no evidence from coaches' accounts that they learned specific psycho-social strategies from this source.

Four coaches talked about learning from experiences *coaching youth* swimmers. Wayne explained,

I was about sixteen when I started a team with four kids and I did my best. I yelled and screamed and after about three years, I realized yelling and screaming doesn't work. I pushed those kids and they got the 10-year old record in Canada, and it stood for many years. But then they weren't swimming three years later. So that was a hard lesson. After that failure, I said 'I can still push kids, but I've got to motivate them in different ways to keep them. So from that day on, my goal now is to keep the swimmers as long as I can.

Nicole also spoke about learning from her experiences as a youth age group coach:

When I get someone who doesn't have good body awareness, I find physical manipulation to be the best way to go. I think partly because my original coaching environment was with age groupers where I got in the water with them, I'd move them around in the water. I don't necessarily get in the water with my Masters, but I do lay down on the deck and I will grab their legs and teach them that way.

In all cases, the lessons learned from coaching youth were specific to the coaches' personal strategies rather than to coaching MAs.

Swimming experience. Ten coaches acknowledged learning from their own experiences as a swim athlete. Coaches had mixed opinions about whether their experience as an age group swimmer (youth swimmer) benefitted their ability to coach MAs. On one hand, there were coaches who believed that experience as an age group swimmer had little benefit on their coaching practice. Armand said,

How did I learn to [coach MAs]? Well I started swimming. That's basically it. All of our coaches are swimmers. The age group swimmers who became coaches bring a lot of the age group stuff with them, which I don't think is particularly useful because they were hot-shot swimmers in high school and now they are trying to coach an 80 year-old.

Conversely, Emile, who had also been an age group swimmer, explained how his experience helped him be empathetic towards his MAs:

I learned through experience to have empathy, more than anything else. I'd had knee issues and shoulder issues as a child. So I am willing and open to listen to my MAs. The coach is a sounding board and they can talk to me.

Concerning their swim experiences as MAs, coaches more consistently believed their experiences as athletes benefited their coaching. Brock explained how he uses his current swim experience towards his coaching: "I swim at lunch time and I come up with a practice at lunchtime and do the same with my swimmers [in the evening]". Tom also talked about how he uses his current experience to know how to coach his athletes: "As a swimmer, I know the things they can and cannot do and I've made mistakes myself that I see them doing . . . [Then I think that] I need to re-do some drills and motivate them to work harder."

While the coaches talked about how being a MA could help them coach, they also talked about the drawback of training and competing as a swimmer while coaching. Wayne said,

I found those first ten years that I competed [while coaching], I really was not coaching. Because I'm highly competitive, if I swam, I wouldn't want to coach. I'd want to win. So now I just coach. When I do swim, I practice all the drills on my own before I introduce them to practice to see how it works and so I can feel what they're doing. But I don't compete anymore.

Tom said,

I'm still competing. I train on my own because, I could train here [with my athletes], but then I'm not as effective as a coach and I'm not focusing on my swim. When I train, I will experiment with different things. I find I'll go 'that doesn't make sense, here's a better explanation as to why we're, you know, rolling so much', and these things come to me as I'm swimming.

Thus, the seven coaches who were Masters swimmers themselves found their competitive experiences were useful to their coaching, so long as it did not interfere with their coaching, and used their own swimming experiences to figure out and plan their practices.

Reading books and Internet searches. Ten coaches talked about learning from reading books or doing Internet searches to find information informally about what they wanted to learn. Armand said:

There's a lot of published information. I prowled the local library, which of course you do on the Internet now. In the last year, I've found two or three swim specific publications available at the public library so I signed them out, showed everybody in the club that it's available on loan or buy it. For specific practices, or if I'm puzzling over something, for example, just recently there's been a lot of talk about using Tabata, super high intensity training for runners and cyclists. I'm saying 'how could that work for a swimmer?'

The coach explained how he utilized books and the Internet to problem-solve and keep updated on the latest techniques. Carmen elaborated on the information she seeks specific to MAs:

I do a lot of reading, mainly on the Web because it's accessible and up-to-date. I'll look at other Masters swim clubs, at programs and training workouts that other coaches create for Masters swimmers. I try to do some reading and research

on work-to-rest ratios as your body ages and recovery time needed. It's very different for a Masters swimmer versus an age group swimmer. I'll share some YouTube videos if I find good ones. At least I'm keeping current.

Coaches also searched coach education websites, to access resources from the organizations directly. Dominic mentioned the resources on the Masters Swimming Canada website.

Many coaches noted that because swim coaching was not their career, they 'tried' to read as much as they could without interfering with their home lives and career. Internet searches could also be frustrating, as Ellen described: "All of the Googling I did, and I found only one article that referred to another article that talked about some research, but I couldn't find that original article. A lot of it is that type of experience." Furthermore, many coaches had similar experiences with reading, like Nicole:

Interviewer: And how did you learn to use this strategy?

Nicole: I read it somewhere. And I remember reading it but I don't remember where. But it stuck.

The coaches did not necessarily know from where they had learned the information. Furthermore, the coaches generally read information regarding scientific issues for MAs (physiology and biomechanics related to older adults), and did not talk about learning about teaching or other psychosocial strategies to interact with adults via this source.

Other coaches. Ten coaches talked about learning from their *network of coaches*. Armand noted that coaches in his club talked about what to do about having heterogeneous groups of MAs. He said, "As a group of coaches, we try to share our experiences with how you manage that kind of spread in age, ability, motivation, objectives." He explained how having the other club coaches helped motivate him to learn:

There are four coaches and it's kind of fun. There's a little bit of friendly competition, so you really want to keep up your game. 'Whoa, I've got to improve my coaching here because this club is doing some pretty amazing stuff.'

Brock and Laura concurred that they spoke to other coaches at their clubs to come up with practice ideas. Emile said he did so too, but that he did not share with coaches outside of the club. Carmen, on the other hand, was willing to share information with outside coaches, but talked about communicating with a coach from far away:

I established a rapport with a coach in California. On some of the websites, it's hard to connect with anybody because you don't know who they are. But in this case, the information was there so I sent her an email and since then she posts her practices on the website. I'm happy to share mine too, so I just email them to her every now and then.

Ellen noted that she used an online platform to learn from other coaches: "I'm on a LinkedIn group that's a professional coaches' group. But I must admit that I lurk more than I post. There's one guy who posts interesting articles and I learn a bit from that."

Nonetheless, some coaches noted that they did not learn from others because, as Armand said, coaches "basically did their own thing". Dominic described not sharing with others because "it's such a personal thing", but he did note that it would be nice to share and receive information from other coaches. He said, "I think the

idea behind all these interviews that you are doing is that a curriculum could be developed? Maybe that's a step in sharing. Compiling all these ideas is good because I don't see sharing happening otherwise."

Four coaches talked about other coach *mentors* from whom they had learned a great deal. Brock explained his experience with an age-group coach mentor:

I was not an age group swimmer, I was a lifeguard. I've learned to coach by being mentored by another coach... He was an NCCP level 5. He coached at the national level. He saw I was interested in coaching, that I was a good instructor for swimming lessons, and that I was an ok swimmer. He needed an assistant with coaching age groupers and young kids. I was exposed to his practices and workouts and saw his swimmers... I learned the importance of mileage. If you want to improve swimming, you've got to swim. Lots of mileage. And I learned from his demeanor by the pool - he's funny and relaxed, same demeanor as I have.

Nicole talked about how a mentor helped her learn specific details of coaching MAs:

I had a good base coming from age group swimming, but he helped me from the perspective of the cycle that a MA goes through in terms of recovery. I did not have specific training for MAs when I started coaching them and I was still young enough that I didn't necessarily have a good appreciation for the [nuanced approaches needed]. My mentor made me more aware of why he sometimes structured his workouts differently for Masters.

Past or current experiences outside of swimming. Seven coaches talked about learning from current or past experiences outside of swimming that they could apply to the coaching of Masters swimming. Most talked about how their work influenced them. Laura said, "I'm a registered kinesiologist. I learned to read people and to approach people differently depending on their personality and what they need, how to be compassionate and understanding. That's definitely helped my coaching". Carmen said, "I used to be a teacher and I say coaching is equivalent to your prep work for classroom delivery". Emile also talked about learning psychosocial approaches through a former job.

I used to be a server in a restaurant and I had to deal with people, day in and day out. I had to read their body language and their attitudes; that's helped me coach. Every time there's a new swimmer that joins, I need to understand how they will best react to feedback from me. I can read them and the experience garnered through many years of serving helped with that.

Armand noted that he learned about learning from his wife: "My wife is a phenomenal teacher. She does huge amounts of research on learning, which has been massively beneficial for me. I don't know how many people have access to that."

Coach education. Seven coaches talked about learning from *formal education sources, including coach certification courses*. Brock described how he had learned how to teach from his bachelor's degree: "My degree was in physical education. I took so many courses, like how to teach adults, how to listen and communicate with them, how kids and adults learn in different ways. And these courses are basically what really helped me". While physical education degrees typically develop teacher's

abilities to teach children, it appears that Brock took communication courses specific to teaching adults to which he attributes his knowledge on working with MAs. Likewise, Wayne noted that his doctorate in exercise physiology with a specialization in aging gave him information about teaching MAs.

Other coaches talked about what they had learned in their coach certification courses. For instance, Dominic discussed acquiring knowledge about different learning styles:

I learned it though the NCCP. Various ways of teaching, those ideas came up through the level 1 NCCP, where they say everyone learns in different ways so you need to adapt your training methods. Everyone learns a little bit differently, some people learn by listening to words, some people have to be visual, some need to work on motor skills through some type of manipulation to get it.

Thus, this coach learned information about teaching and learning from the formal NCCP program, but did not go into specifics about teaching MAs in particular. Likewise, Ellen discussed what she liked best about what she had learned through the NCCP:

I've taken quite a few coaching courses, I have my level 3 theory and level 2 technical for swimming. Of all the courses I took, the one I found the most useful was the level 1 theory because they talked about what motivates people to do any activity. There are people who enjoy being with the group, people who like to excel, this, that and the other. Because I've always been very results-focused and interested in competition, it's been good to understand some of the other motivations for people. That was useful for me.

In both cases, the coaches liked that the information they learned, while not specific to MAs, could be applied to MAs because they learned how to work with a heterogeneous group of athletes, which is similar to what they have in their Masters groups.

Six coaches talked about learning from *conferences and clinics*, or modules that they had taken. Armand talked about being part of a pilot program for Masters swim coaches. Carmen noted that she took updates to make sure she knew about the latest rule changes by FINA (the international swimming governing body). Finally, coaches looked beyond their sport for clinics. Wayne said: "I learned this from Tom Landry, he was a Dallas Cowboy coach, in a world coaches' clinic . . . I took away from him that I'm a professional, I perform, I make sure that my athletes can say that they're glad we did this together". Carmen said,

As a technical trainer in my [professional] career, I've taken a number of courses on principles of adult learning and learning styles. I learned that everyone's there for a different reason. The way that adults receive feedback or interpret feedback is varied, so I use that information.

Thus, coaches sought out various educative learning opportunities to get at information that they found useful in coaching MAs.

Perceptions of Coach Education

In the abovementioned sections, coaches discussed the various sources through which they learned to coach MAs. In the following

sections, the coaches' perceptions related to coach education programs are explored.

Lack of connection between coach education programs and coaching MAs. Despite some coaches gaining some proficiencies towards coaching MAs in their coach education courses, generally, they were not identifying with the importance of certification/accreditation through coach education courses because they perceived that they are geared towards working with youth, not adults. Dominic said,

With NCCP, you learn to work with children . . . NCCP is catered towards maturation and development of young swimmers. You learn that their motivation is to train at 100% and be there 100% and have full support from a network of coaches, teachers, parents, to ensure they get the proper sleep, nutrition, motivation at home, marks . . . Well, with Masters you can't do any of that . . . You can't train them the same way and the NCCP doesn't recognize age.

Armand said, "You can't come in [to coach at our club] unless you have the age group certification which is perhaps 40% applicable, but not beyond that." Ellen concurred:

When you go to the coaching courses, they talk about things like dealing with swimmers going through puberty, and it's like 'well, that's not really my issue.' But I do have people going through menopause, which seems to be affecting their swimming. So what do I do? The coaching courses I took are definitely geared towards age group rather than Masters coaching.

When asked about whether they were certified, many coaches had similar answers to Armand:

Interviewer: So, are you certified as a coach?

Armand: There is no certification.

Interviewer: No?

Armand: Oh, you mean generally [not specific to MAs]. We had some discussion about whether [taking NCCP courses] would be useful for us [coaches of MAs]. I am neutral on the subject. If Masters Swim Canada had a certification program specific to adult swimmers, that would be superb.

Another coach, Emile, had similar sentiments:

It's tough to get certified to coach Masters. There are no programs offered through national or provincial bodies that can provide that certification . . . It wouldn't hurt for there to be one specific Masters coaching certification . . . Going through a training program for coaching kids is inherently different than Masters.

When pressed on whether coach education is important for coaching MAs, Brock said,

To coach Masters, I think it's important to have a swimmer's background, an education in exercise physiology geared for older adults, and know how to teach adults. That's more important than having coach certification . . . It's good to have a coach that can relate to swimmers and be able to talk to them, listen to what they want and they don't like. If you're a good educator, you got half your battle, to be able to

talk to adults. If you can't do that, you shouldn't be coaching adults.

Nicole talked specifically about the importance of understanding how to teach, and how coach education programs can provide this knowledge: "Not everybody instinctively knows how to coach. There are so many different aspects to coaching and I don't believe that anyone instinctively will have all those skills without having some kind of training." Thus, training to learn to teach adults appeared to resonate with the coaches.

Coaches were also asked about whether their athletes felt it was important for coaches to be certified. Brock said,

I think they probably think it's important, but they probably don't know that it's not important (laugh), you know what I mean? They want to know that their coach is certified. But whatever I learned [in coach education courses] is not better than all I learned from my experiences. I got my level 2 certification, and does it serve me today [with Masters]? Pfft. It does not.

Tom said: "I think it's important to them to know that they've got a coach that is teaching things that are accepted by a larger body." Laura concurred: "I think it's valuable and NCCP teaches you stuff you can apply. It's important for standardization, so then clubs have confidence in their coaches and swimmers know that when they sign up." Thus, coaches perceived that MAs thought certification was important as a means to determine that they have a basis of standard knowledge to coach.

Coaches' interest in coach education specific to MAs. The coaches were asked if they had any training or education related to working with adult athletes or adults in general. Each one said something similar to Nicole: "No, I have not. I've done some reading specific to Masters coaching, but not [coach] training." Or Laura: "No. [All I have] would be training on myself. Personal experience applied to the group."

Nonetheless, they were interested in being trained with information specific to MAs, Armand said, "if there was an area of weakness in Masters swimming globally, it would be that there's too much training based on [youth] age group experience, and not much on older Masters swimmers." Armand talked about a pilot program aimed to coaches of MAs. He said,

It was good. There was some information that I would say was pertinent to any kind of coaching, but also quite specific to Masters. The problem with it was that the instructors tended to be experts in age group swimmers and not a lot really translates in terms of diversity and goals of the swimmers.

Thus, even a course that was designed specifically for coaches of MAs was facilitated by a youth age group specialist.

While many coaches were interested in a course specific to coaching MAs, they also talked about challenges. These coaches noted a lack of free time to engage in coach education courses. As Jordan said:

Unless I was to decide to do coaching as my career, if a club asked me to get a certain level of certification, I would really have to sit down and think about it because, you now, I love coaching, but I have two young kids at home. I can't have it interfere with my life too much and I can't give up a ton of time for it. If it wouldn't add a lot of value to how well I coach, I just don't think it would be necessary.

Furthermore, some coaches felt that Masters were not serious or competitive enough to make it important for coaches to be certified, as Brock said:

Well, you know, if they were more serious at competing, top level Masters, yeah I probably would [take a coaching course]. I haven't done a seminar on what's new out there for coaches for so long. I would say it'd be good for me to go on a refresher but for the level of Masters that I have, (exhale), it's not really that important.

Jordan talked about how he did not think he had much of an impact on his MAs, and therefore, it was not important to be certified: "Masters, I think it's a little bit different [than coaching kids], because I'm not impacting them, right? They're adults, not kids. I would never coach kids because I would have to do all this certification. I wouldn't want to."

Discussion

This study explored coaches' perceptions of how they learned to work with MAs and whether their formal coach training met their needs related to coaching MAs. With regards to the sources from which coaches learned to coach MAs, they suggested six categories, including learning from their coaching experiences, from their athletic experiences in swimming, from doing Internet searches and reading books, from networking with other coaches and mentors, from other experiences outside of swimming, and lastly from their formal education, including coach certification courses. These sources are similar to those seen in other research on coach learning (e.g., Nash & Sproule, 2009; Rynne, Mallett, & Tinning, 2010). Within these sources of learning, the coaches in the present study did not necessarily learn how to teach adults, but they did learn how to deal with the heterogeneity of their group of MAs, as seen for example when Dominic learned about adapting training methods to different athlete learning styles. Côté, Bruner, Erickson, Strachan, and Fraser-Thomas (2010) have noted that coaches working with different athletes need to be adaptable and "require distinct knowledge and skill sets to meet specific athletes' developmental needs" (p. 78). Being able to adapt to individuals who vary in personal motives, participatory or performance-orientations, and age characteristics is indicative of excellent coaching with youth and very young adults (Côté, Young, Duffy, & North, 2007). MAs are highly heterogeneous in their make-up (Rathwell et al., 2015; Young, Bennett, & Séguin, 2015), for example, in terms of their motives, preferences for how they wish to be addressed and given feedback, their skill level, their competitiveness, or locus of control, amongst other factors. The likelihood that any one swim club might encompass such heterogeneity across six swim lanes at the same time during a practice, may mean there is greater need for coaches of MAs to collaborate with their athletes, learn how to adapt and work with wide-ranging athletes.

From the results of this study, we note the necessity of providing coach education specific to teaching/coaching adults. While the coaches mentioned that club programs often require their coaches to take coach education programs as a means of ensuring that they have basic skills to coach, some authors criticize coach education as being one-off, short, and disconnected from practice (Cushion, Armour, & Jones, 2003). Others (e.g., Callary, Werthner, & Trudel, 2012; Deek, Werthner, Paquette, & Culver, 2013) have argued that, while it has its limitations, coach education provides a basis from which coaches can then continue to learn,

linking to the idea of prior experiences influencing subsequent learning (Jarvis, 2009; Knowles et al., 2012). In this study, while many of the coaches of Masters swimmers said that they considered their formal coach (NCCP) certification as a learning source, they also generally placed little value in this source of learning, and saw their accreditation as a token of knowledge that allowed them to coach within their clubs. Most coaches noted that there was “no certification” to coach MAs, and they needed to be prompted to consider their formal coach accreditation (NCCP) training as applicable for them.

None of the coaches in this study had any training in coaching MAs specifically. Despite interest in a course explicitly geared to coaching MAs, very few coaches spoke about their interest in learning to teach; they focused instead on physiology or the health of the athlete. While some coaches talked about being ‘good educators’ or ‘teaching’ MAs, they did not discuss their need to learn how to teach/educate/coach MAs. Coaches themselves appeared relatively unaware of learning how to teach adults specifically, taking for granted that they could do it based on their own experience as an adult and often based on what they knew about interacting with adults in a helping capacity outside of sport.

Since coaches described gaining little value from coach education regarding specifics of teaching adults, it is important to consider how they are learning this information. The coaches talked about learning most predominantly from their informal experiences with their MAs. However, as a whole, they did very little reflection on their practice, and when they did reflect, it was not in depth. The coaches perceived that reflection took time out of their busy schedules, and did not appear to know how to properly reflect beyond assessing their practice session. This unfortunate finding matches previous research noting that only few coaches purposefully and methodically engage in reflection (Werthner & Trudel, 2009). Focusing coaches’ reflection on how to teach adults, such as collaborating with their MAs, understanding how they can cater to MAs’ inquisitive attitudes, helping create opportunities for MAs to feel ownership of learning, and readying their MAs to learn (Callary et al., 2017), would enhance their proficiencies at psychosocial approaches and the use of adult learning principles (Callary et al., 2015).

Coaches noted the large influence of their experience coaching MAs, yet few coaches learned from coaching youth or from being a youth swimmer. They noted that many experiences coaching youth were too different to be helpful. Studies have shown that past sport experience is a major source of coach learning (Erickson et al., 2007; Gilbert, Côté, & Mallett, 2006). However, the coaches in this study noted their inability to transfer portions of this knowledge due to the age of their athletes and the realities of Masters swimming not matching with their experiences as youth swimmers. For example, Armand talked about the differences in being a former ‘hot-shot’ youth swimmer and this experience not transferring well to coaching the leisure sport pursuits of an 80-year old MA. While this might be an ageist perception on the part of the coach, parallels in the difficulty of transferring knowledge from experience in different contexts exist in the disability sport literature, in which coaches, who are often able-bodied, are unable to draw many conclusions from their own experiences as athletes. For example, McMaster, Culver and Werthner (2012) found that able-bodied coaches relied more heavily on communications with disabled athletes in order gain an understanding of their physical limitations and experiences. Nonetheless, a unique finding is that coaches are learning from their own experience as a MA, which is

noteworthy especially given that they are conscious of the benefits and challenges of training with and competing against their athletes.

The current coaches described reading books or conducting Internet searches to find information relatable to coaching MAs. In other sporting contexts (e.g., youth and high performance sport), coaches experienced developmental benefits from using similar resources (e.g., Stoszkowski & Collins, 2017; Wright, Trudel, & Culver, 2007). Wright and colleagues (2007) found that youth ice hockey coaches used coaching websites to find and understand new drills, and read online coach discussion boards to gain insight from other coaches’ testimonies. Stoszkowski and Collins (2017) found that structured coaching blogs were able to facilitate reflective thinking and promote online communities of practice. In the current study, Masters coaches talked about these sources in a way that led us to question the reliability of the sources and the efficiency of their learning in this manner. Specifically, the coaches often could not remember from where they acquired their information and expressed frustration with the lack of information available. These results suggest there is a need for a credible online platform where Masters coaches can gain empirical information on the psycho-social aspects of coaching adults and engage in structured blogging to encourage the development of online communities of practice.

The coaches rarely learned from other coaches outside of their immediate club. In a study of youth coaches, Wright and colleagues (2007) suggested that coaches will not share their knowledge because of their desire to win against opponents (including other coaches). Further, only four of the coaches in our study talked about mentors from which they learned to coach MAs specifically. They did, however, express interest to learn from others.

Coaches learned information pertinent to coaching MAs from their jobs and previous (and distant) post-secondary education. The few coaches that did learn about adult learning principles through their education found this to be useful to their coaching. This source of learning fits with the literature suggesting that coach learning is idiosyncratic, meaning that they learn in various ways throughout their life course (Werthner & Trudel, 2009). Indeed, the ISCF (2013) noted that coaches learn best when they recognize, reflect, and build on prior experiences and abilities; when they are motivated by relevant learning material; and when they take responsibility for their learning. The wealth of pertinent experiences outside of sport should be celebrated and reflected upon to garner as much knowledge towards coaching MAs as is useful.

Although this study provides a novel and in-depth description of the coach learning sources for MAs, it is not without its limitations. Our findings are based on a limited number of Canadian coaches within the sport of swimming. We chose swimming because it represents one of the more popular Master sports, one in which the coached context may be particularly relevant for athletes (Callary et al., 2015). However, we cannot be sure that what we learn from swimming applies to many other Masters sports. Further, the coaches in the study were not screened as expert coaches within their context, but rather could be considered typical Masters coaches who may not engage in regular coach development and ongoing education. Thus, these participants may better demonstrate the common challenges inherent in learning to interact with, facilitate quality training for, and apply suitable learning principles, with adult athletes. Callary et al. (2015, 2017) made the case for the disconnect between coaches and MAs when coaches do not apply some adult learning principles, potentially compromising

a quality sport experience for MAs, and decreasing their involvement and motivation to continue in sport.

Asking Masters coaches to engage in formalized context-specific coach education may not be so simple. The difficulty lies in fitting coaches of MAs into one of the existing typologies of coaching context: Trudel and Gilbert's (2013) three contexts (recreational, developmental, or elite) or according to the ISCF's (2013) coaching categories (participation or performance). Coaches of MAs often simultaneously coach athletes who fit *all* of these contexts. Yet, all the MAs are adults, and so overlap occurs not necessarily in the aforementioned defined contexts, but in terms of understanding the use of adult learning principles. The theoretical underpinning of andragogy, the art and science of coaching adults (Knowles et al., 2012), could thus be taught to coaches with an understanding that these may be utilized differently depending on the MA in question (for example, adults may have different prior sport experiences or abilities to be autonomous depending on their level of development in the sport). A conversation of the heterogeneous motives of MAs and how they can be accommodated via practices that are in agreement with adult learning principles would thus be an integral component of any targeted formalized coach education for coaches of MAs.

Another difficulty in asking Masters coaches to engage in coach education lies in their feeling that they did not need training to coach Masters swimmers. A few coaches further commented that pursuing formal coaching education in this context was an unnecessarily serious step, inconsistent with their view of Masters swimming as recreational leisure. The inability to recognize a need for more substantial coach development in the Masters swim context may reflect ageist conceptions of sport for older adults. That is, if organizations promoting formal coach training focus almost entirely on youth sport, and devote all their coach education resources there, then there is an absence of messaging around the value of coach education in the Masters context. This might explain why there is no considerable or systemic expectation for Masters coaches to invest in their own formal training. Where a semblance of Masters coach education exists, it is often local and organic in its origin and not attached to a large-scale coach education program like the NCCP in Canada. Finally, the process of how individuals are socialized into a Masters coaching role may partly explain the disconnect with formal coach education. Masters swimmers sometimes reluctantly take on their first Masters coaching role because there is no professional leader allocated to that position in their club, and they are not motivated to pursue onerous coach education courses and modules.

In conclusion, coaches do not have formal avenues to learn about how to coach MAs. The coaches in this study discounted the value of coach education, because it is currently geared towards working with competitively-oriented children. We challenge current practices in coach education programs that do not differentiate teaching principles for coaches working with various age cohorts and competitive levels. With particular focus on the Canadian reality and the NCCP system, we contend that insufficient differentiation of approaches for adult athletes could be problematic for enriching quality Masters sport through coaching, especially considering emerging evidence that adult learning principles are important for MAs and their coaches (Callary et al., 2017). Future research could explore best practices of coach influence on MAs, potential MA outcomes associated with being coached using adult learning principles and within the MAs' goals of their sport involvement, with individual and team sports. Finally, we advocate for the creation and study of a coach education module regarding

teaching adults in sport, developmentally appropriate for MAs, and built on research-based findings.

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Queries

- Q1.** As per journal style, references were not allowed in abstract. Therefore, please edit them out.
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- Q3.** Please provide page range for the reference “Callary et al., 2015.”
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