Original Article (short paper)

Football coaches' development in Brazil: a focus on the content of learning

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Abstract — Aim: The aim of the study was to analyze the lifelong content of learning of coaches. Methods: Eight coaches inserted in an Elite Football Club participated. Rappaport Time Line and semi-structured interviews were used to obtain the data. The coaches' learning was organized according to the theory of Lifelong Learning. ¹⁻⁴ Results: The coaches presented in their personal experiences, with their families and as athletes, content of learning such as "leadership development" and "formation of values". In professional experiences, such as in academic training, coach assistants and even coaching, they are also reported as essential in obtaining content of learning (general and specific knowledge, training methods, leadership development, self-control). Finally, the reflexive process is considered by most coaches as a potentiator of learning, with interference on the "coach-athlete relationship", "activity adjustment," among other content of learning. Conclusion: The content learned throughout the life were defined in certain episodes for presenting different meanings in the life of the coaches, in which they related to a new experience according to their biographies. Therefore, the various episodes offer coaches new experiences, in which they can incorporate, reinforce or renew the content about the coaching process and are responsible for the development of the coach.

Keywords: coach learning; lifelong learning; team sport; sports coach

Introduction

Coach development is assumed to be an all-encompassing term that refers to the process leading to enhanced expertise.⁵ In its complex meaning, the definition of coach development should comprise the individual process that leads coaches to continuous learning, embracing the range of learning opportunities and contexts.^{6,7} This assumption has sustained the current coach development literature, in which learning has been recognized as a lifelong process, exposing coaches in a constant process of becoming.^{1,8}

In this ongoing pathway, training through certification and non-formal courses has been shown to have some value for the development of sports coaches, can be the coach educator to transmit knowledge to students.⁶ However, practical experiences have been recognized by coaches as crucial learning opportunities.^{9,10}

While training in memorization and reproduction of information assumes the main path of development of coaches¹¹, practices involve other learning mechanisms.¹² In the case of coaches, since new information comes from their own context, they have more meaning for them, because they involve their own action, feelings and reflection, and thus have a greater impact on their learning.^{1,13,14}

For Jarvis⁴, learning is defined as:

The combination of processes throughout a lifetime whereby the whole person - body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, meaning, beliefs and senses) - experiences social situations, the content of which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the individual person's biography resulting in a continually changing (or more experienced) person.

Learning, then, is intrinsic, but it is articulated within a social process by having symbols and meanings according to the idiosyncrasy of each one. Socialization prevails in our lifelong experiences by living in interpersonal and impersonal relationships. No person is an island, so the globalized reality reports us beyond the varied daily experiences, broadened by the media around the world. Consequently, the phenomenon of globalization leads us to interactions in a combination of cultural practices, depending on where live and on their social position, among other things. This is the nature of human experience, in which conditioned by these interactions can modify emotion, the motive of learning, our actions, and so on.¹

However, there is a concern that these experiences do not ensure quality learning, because in many cases coaches may end up only reproducing the practice of other coaches based exclusively on affection, or even on common sense. ^{15, 16} It is in this sense that the current suggestions on the development of sports coaches define the combination of learning processes and

learning experiences in different contexts, such as in universities, workshops and workplaces.¹⁷

In many countries there is no legal requirement for coaches to be certified to act in this area because coaching activity is voluntary.^{17,18} Interestingly, this reality is not so common for Brazilian coaches.¹⁹ In legal terms, in the country there is an effort for the coach to be graduated in Physical Education to be a professional.²⁰ In this sense, university preparation represents one of the learning episodes to become a sports coach. However, the course still has gaps and a traditional teaching model.¹⁹

Considering then that learning is a constant process of becoming, in which the "learning content" can be lifelong transformed emotionally, cognitively or actively (or through combining at least two of these three) and integrated into a person's particular biography, resulting in an ever-changing or more experienced person⁴, the purpose of this article is to

Table 1 Formation, years of athletic experience and coaching.

understand how football coaches in Brazil learn and perceive lifelong learning content.

Methods

Participants

Eight coaches of young players (U10, U11, U12, U13, U14, U15, U16 and U17) participated in the study, with a mean age of 31 years. The coaches were chosen intentionally for being part of a Club that is in the Series A of the Brazilian Football Championship and that has instituted the processes of training, detection and selection of talents for professional football.²¹ For more characterization, some characteristics of the coaches are presented in table 1.

| Coach | Formation (year) | Athlete | Coach |
|-------|-----------------------|---------|-------|
| C1 | Specialization (2009) | 5 | 10 |
| C2 | Specialization (2006) | 17 | 14 |
| C3 | Graduated (2010) | 8 | 10 |
| C4 | Specialization (2012) | 16 | 4 |
| C5 | Graduated (2009) | 5 | 11 |
| C6 | Specialization (2010) | 13 | 7 |
| C7 | Specialization (2011) | 16 | 6 |
| C8 | Specialization (2009) | 5 | 10 |

Regarding specialization courses, at the attendance level (attended by the coaches), they are offered to candidates with Physical

Education degree and have a minimum duration of 360 hours.²²

Instruments for data collection

The data were collected through two instruments, namely: Rappaport Time Line (RTL) – adapted (figure 1); semi

structured interview. In short, RTL is a blank sheet of paper measuring 8.5×14 inches in which the words "birth" and "present" were written at opposite ends. The participants were instructed to report important events, milestones, and transitions in their lives, in a detailed and time-divided manner.²³ In this study, it helped as a memory stimulator and to guide in-depth interviews.¹⁴ The Time Line content supported the themes for the following interview (e.g. significant moments during childhood).

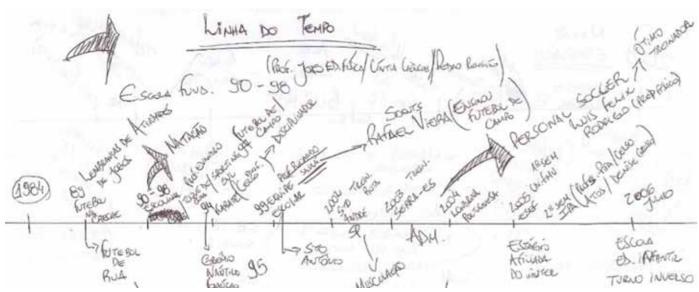


Figure 1 A section from C4 Rappaport Time Line.

In the second phase, a semi-structured interview was conducted. An instrument that can generate in-depth clarification and reveal much more about the meanings that the participants attribute to their experiences. ²⁴ To guide the responses, the interviewer used a pre-established script in the interaction with the participants. In this paper, we present an interview script that was constructed from specific literature ^{7,13,25-27} and improved with a pilot study of three coaches of young players, in a process conducted by two PhD with more than 10 years of qualitative research experience, and a Master Candidate.

Procedures for data collection

The study was approved by the Human Research Ethics Committee of the Federal University of Santa Catarina (opinion No.: 1.285.811/2015) and all ethical care was taken. Data collection took place in two phases, and in both, the process happened in a private place chose by the participants: in the first phase, the researcher marked a moment for clarification and realization of RTL by the sport coaches, always with the follow-up of the first author, with the intention to initially explore the biography of the coaches; in the second phase, the researcher had a digital recorder, the finished RTL and a semi-structured interview script with open questions divided by guiding themes, detailed the data. In this second phase, RTL information was used during interviews with each coach, relating the questions to the personal facts described in the sheets, in order to create proximity with the biography of each coach.

The interviews with the coaches had an average duration of 58 minutes, considering both the introductory part and clarifications. In the transcription of the interviews the oral discourse and the grammar were respected, in order to guarantee the preservation of the semantic content of the respondents' answers. The transcripts were imported, and the data categorization was performed through QSR N vivo 9 software.

Data analysis

The organization of the coaches' learning episodes followed the theory of Lifelong Learning. 1-4 Based on the Bardin²⁸ content analysis, three phases for analysis were conditioned. Preanalysis, exploitation of material, data treatment, inference and interpretation were performed as shown below: pre-analysis, phase of information organization. At this stage the interviews were transcribed and, after a first rigorously exhaustive reading, the comments that could illustrate what was intended to be discussed were separated, avoiding decontextualization; exploitation of the material, stage of application of the decisions taken, codification and alteration, according to pre-established rules to understand the meanings given by the interviewees to the research object; data treatment, inference and interpretation, last step that illustrates the synthesis and selection of the results from the interpretation of the theoretical information that were significant for the study with the consideration of the categories of analysis – episodes of learning; learning content.

The confirmation of the representativeness of the categories was established by the exhaustiveness in the analysis and the confrontation and discussion of two experts with extensive experience in qualitative research, coach education and sports. ²⁹ The validity process consisted of e-mailing the study participants, selected parts of the transcripts and interpretations made by the authors, for the participants' verification and confirmation about their statements. ³⁰

Results and Discussion

From the eight coaches' interviews, the certification and nonformal courses were identified, as well as the practice and episodes of learning (Figure 2).



Figure 2 Contexts and episodes of coach learning (adapted from Nelson, Cushion and Potrac⁶).

The experiences of Brazilian coaches were classified in three learning situations (adapted from Nelson, Cushion and Potrac⁶), as follows: (1) formal; learning situations in institutionalized environments, structured and include long-term teaching programs and diversified content (sport pedagogy, physiology, emergency aid, sports legislation), such as undergraduate and postgraduate courses; (2) non-formal; courses organized to attend a specific group, e.g. football coaches. Non-formal learning situations include interventions by researchers and short courses such as mini-courses, workshops, clinics, seminars, conferences and formalized orientation programs. This learning situation may be carried out by confederations and federations, universities, private companies, among other institutions or Organizations. As well as the formal situation, it has a teacher or lecturer who will deliver a certain content to graduates as future coaches, as well as coaches and other sports professionals who already work; (3) informal; unstructured learning situations in which

learning starts from the coaches' needs. These situations include informal orientation, internet access, experiences inside and outside the sport, as well as interactions with others (members of the coaching staff, leaders, athletes, among others).

It is important to emphasize that participants of this study considered the reflection only in the informal learning situation. This moment of introspection is considered essential to help to understand the needs of daily issues. At this point research suggests that reflection should be worked in formal and nonformal situations. ^{1,12,31}

Among the courses and episodes of learning, learning content (Figure 3) were identified, incorporated by more than one coach, which led them to change their biographies, i.e., becoming a coach and continuing to professional development. Despite data emerged from different life episodes, we tried to present it in a rational analysis, using a chronological perspective to organize the results.

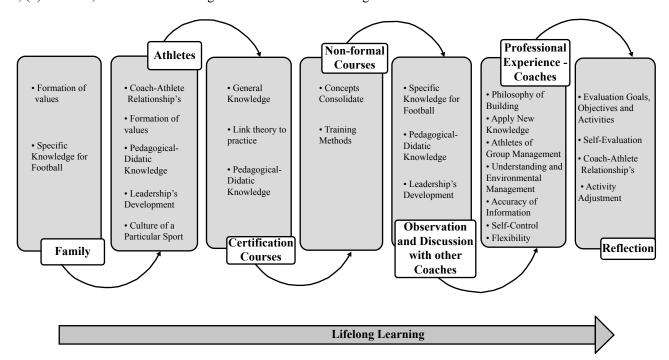


Figure 3 Episodes and content learning presented lifelong of sports coaches.

Although the content of learning are presented in different contexts and episodes, we need to consider that content has a relation and can influence how coaches learn or what they learn in future episodes. Some content have been reported in more than one episode of learning. The following presents and discusses the learning content.

Learning from experiences with family members

Even with a long period of time from childhood up to becoming factual coaches, three professionals still remember learning from their families. One content addressed concerns the "formation of values" (C1, C2). This indicates the influence of family members involved in what coaches assume in their biographies, specifically in sports, as right or wrong.

Family as a primary socialization represents the beginning of experiences exchange, in which children begin to acquire past learning from their parents (C1, C7), close relatives, on how to live in society.³ Concerning football, Talamoni, Oliveira, and Hunger³² found that in these family experiences, as well as C1 and C2, the training was based on commitment, responsibility and discipline.

"[...] Principles, education, posture before society, I have no doubt that it was my father who taught me what I know today." (C1)

In addition to the issues related to the "formation of values", the interest of family members about a given sport, as pointed out by two coaches (C2, C7).

"When I came in to college I already had a more critical look about the training because I used to discuss a lot with my father". (C7)

According to Ramos, Brasil, Barros, Goda and Godtsfriedt³³, the interaction with the parents can promote the insertion in the sport, influence along the life trajectory and in the pedagogical decisions as coaches. Therefore, experiences with family members may accumulate experiences that influence the coaches' actions.²⁵

Learning from experiences as athletes

At the second moment in life story, coaches declare their participation as athletes, when they started practicing sports around the age of 10 and in the specific case of C2, he was contracted by a professional team, even playing in Europe. During this period, coaches reported the importance of acquiring new learning content. One content has to do with the "coach-athlete relationship" (C1, C2, C4, C5) – in this case, C2 was the one who presented the longest experience as an athlete (17 years) and described what he saw as positive in one of his coaches:

"I have a very good memory of a coach. He has this ability to move a little bit more the player, on the motivational side, on the psychological side. Today when we meet, I always thank him and he ends up calling me son, it's really cool." (C2)

"The Pipa is a coach who appears in my timeline in three moments while my coach at football school was a guy that I have this image of a very fun guy, and then while my university team coach was a guy pretty demanding". (C4)

It is evident that it is important for a coach to know not only about training content but how to work with their athletes and how to create a strong relationship so that everyone believes in their work, and this learning process can result from training, by observing certain behaviors and ways of acting of their coaches.

In the evolutionary process of the human being, secondary socialization presents itself as the beginning of sharing and participation in new social groups, where they learn specific roles, in constant change due to the experiences incorporated in different organizations, such as "sports groups" - C1, C2, C4, C5. For C2, this experience with other social groups over almost two decades seems to have been decisive for his coach development, considering several learning content.

On the other side, the "formation of values" (C1 and C2) as described by C1,

"how to live in society, I think this is one of the biggest lessons I've had in my career that is learning to live with people, learn to respect rules and this is important for our lives, inside the game how important it is to compete, but competing in a healthy way, respecting opponent. So I think it is what I focus with my team today that charged me in a time that I might not understand very well". (C1)

The "formation of values" can be understood by the fact that the philosophy of the coaches influences the athletes with an impact on what they learn for life. Learning such as cooperation, responsibility, empathy, respect and self-control.³⁴

Learning in certification courses

In these certification episodes (undergraduate and specialization), "general knowledge" (C2, C3, C4, C5, C7) can be highlighted as learning content – involving various teaching content.

"[...] if you analyze it based on physiology, biomechanics, anatomy, knowledge is important, but in college you do not learn to teach football." (C2)

"The college I graduated is very recognized in, it is famous in this field in swimming, in physiology, but about sport high level training, in all individual and team sports, it was not enough. And in football it was especially hard, we had nothing about this in football, no big news about training process." (C3)

However, for C3, C4, C5, C6, C7 the internship was essential to put theory into practice and generate meaningful learning in his biography because it was a learning-enhancing action and made him understand what he experienced in the classroom.

"Pipa was a coach who contributed too much for me to understand how a session works, the moments of beginning, middle, of end, what to do in that moment. How to behave in front of the athletes, if it is to talk to me crouch to stay on the same level, how to communicate with the children". (C4)

"[...] learning the theory in the classroom and taking it to practice in the internship, from there I came to understand that these games are interconnected, zonal marking in handball, the transitions that basketball requires, the fast decision making in futsal and I searched to associate a lot of what we learn with football." (C5)

These findings corroborate national and international studies, presenting positive questions and gaps in the teaching process. For instance, a coach interviewed by Callary, Werthner and Trudel¹³, who learned about safety procedures. "General knowledge" (C2, C3, C4, C5, C7) as a positive aspect of the Physical Education course also involves safety issues, when coaches learn about certain teaching content (first aid, among others) with concerns care in the preparation of children and young people.¹⁹

However, in the context of certification, it is considered that Physical Education professionals are prepared to coach in sports of participation and not in high performance sports. The course disciplines cover a broad field of action and few hours are devoted to the specific sports subjects. Moreover, the program is not based on reflexive learning. These are questions reported by C2 and pointed out by the international literature as worrying. 1,9,11,35 A reflective practice could lead coaches to a profound, motivating and enduring learning. 1,12,31

In Brazil, the market needs, therefore, cannot be met as in the case of high-performance sports, even with the preference of the coaching professionalization with the Physical Education course, as proposed by Laws 8650³⁶ and 9696²⁰. This suggests problems or generalization in the educational process. In this sense, Jarvis² agrees that adult education has been considered as the institutionalization of learning. However, this learning opportunity needs to be in line with employers' demands, so experts can meet the market needs with innovation and efficiency.

Learning in non-formal courses – workshops, congresses...

Regarding non-formal courses, we considered the professional courses held by the coaches in various events and short-term

programs as follows: specific courses and lectures on football, seminars, workshops, congresses and online courses.

Short-term events or programs were reported by four coaches, generally as "consolidating conceptions" (C1, C2, C3, C7), without discussing innovative ideas. Sometimes these courses feature,

"[...] a general knowledge, but do not provide something new to introduce into daily training." (C2)

"The congresses today become just a network of contacts, one or another thing that adds to you, but it is really to confirm where your ideas are going." (C3)

"They add you knowledge, but I think it's a bit like college, could be a bit more in-depth." (C7)

Learning in the non-formal process can be incorporated into a continuous system of learning and education. Life transitions are not fixed, society has become more open, they occur more often because of the ease found in the courses (workshops, online courses, among others) presented by the coaches of this study at different times for different people. Being that each transition can be a moment of personal and professional growth and development. In the same way as to the findings of Christensen non-formal courses can give more confidence to professionals, even with more experienced coaches.

It is worth noting that when coaches attend certification and non-formal courses, they already have some experiences that shaped their ways of acting and that lead to their practice²⁷, as presented by six coaches (C1, C2, C3, C4, C5, C7). To professors and lecturers, it is recommended to help current or future coaches to recall their past experiences to understand why they assume certain behaviors and thoughts.²⁵

Learning from the discussions and observations of other coaches

In learning episodes with other coaches – usually with more experience –, the professionals may observe and discuss about training and how to act during a competition. A point that was well discussed in the experiences with other coaches and mentioned by some participants of the study was "specific knowledge" (C1, C4, C5, C6, C7, C8) applied to football.

"I was an assistant in the categories U10, U11, U12, U14 and U15, participating in several championships, some national and other international, traveled with the coaching staff. This contributed too much for me because I learned how the environment was, how give a lecture, how the boys react, how was the lodging and feeding." (C4)

"The greatest involvement happened in the day I arrived at the training center and saw the coaches working and from there I began to get involved and work hard. The good training is: loads of physiology, psychological aspect, competitiveness, motivation, technical-tactical understanding." (C5)

In general, people do not live in a single society or culture, but in life-worlds that consist of interacting with other people and a combination of cultural practices, depending on where they live, their social position, and other dimensions of personal and professional life.⁴ These interactions are important, even in the case of this study with coaches who have similar stories, and the combination of experiences was considered positive by most of the coaches and where C4 was an assistant of C3.

This is due, as defined by C4, to the fact that they have less responsibility in training and competitions and by the positive or negative example of head coaches. Negative, as we may not agree with each other and a new posture considered to be ideal is assumed.⁴

In this experience with mentors during the practice, studies have confirmed that it becomes one of the main factors that lead coaches to real learning.^{25,32} Scaglia³⁸ highlights that this does not mean copying, following or idealizing a professional, but studying in a rational and methodical way to understand his philosophy and to consider what is positive.

In our study, this issue – learning by observations and discussions with other coaches – emerged in the quote of seven coaches (C1, C3, C4, C5, C6, C7, C8). The perspective of different experiences seems to lead to better professional and personal practices. The results reinforce that coaches manifest a diversified learning through observation.^{27,32} Thus, observing other coaches can be useful to verify if the trainings are effective for the development of young athletes and become essential for the construction of professional knowledge. As described by Jarvis⁴, where each person, according to their life experiences, can contribute to the growth and development of other people.

Learning from experiences as coaches

At this phase, coaches assume their current role –they are responsible for training athletes and managing relationships with other professionals. Seven professionals reported establishing good part of their philosophy (C1, C3, C4, C5, C6, C7, C8), but they also mentioned that continue to analyze their practice.

"[...] gradually I was able to improve, to be a demanding coach but in a plausible way. Then I received constructive criticism to become an organized coach prepared for a new trend, a contemporary football." (C5)

"I think so, the challenges to get here, to stay here, to stand up, to seek to grow are very great, but from the moment you pass your values and your ideas this will give confidence to the people who are your surroundings and above all make mistakes and try to dialogue a lot so you are always trying to evolve. The experience will give you more convictions, it will make you more sure of what you do." (C6)

This probably happens because they are always searching for a better definition, in a context where sports, specifically football, are in constant evolution and require from coaches' effective actions. Then one may assumed that the accumulation of coaches' experiences can change their biographies and favor their effectiveness, relating their past experiences and correcting what is needed, such as to conduct trainings according to

problems or potentialities of football teams. In episodic experiences, as defined by Jarvis¹, throughout life we can pass through transformations and shape ourselves as a changed person. This implies new experiences for professionals so they can develop in their professional performance.

In addition to the findings of this research, such as "constructing a philosophy" (C1, C3, C4, C5, C6, C7, C8) of each coach, Ramos, Graça, Nascimento and Silva¹⁶ verified that for the four professionals investigated, the experiences as coaches are important for acquisition of new learning, in the accumulation of experiences in the construction of knowledge, in which each coach must own a "line of thought". Moreover, the words of C1, C4 and C8 corroborate the pillars of success defined by John Wooden, who considers "self-control" as an important block of his successful pyramid in sports coaching.³⁹

"We went to compete in the international championship. When we went to play with ten thousand people in the stadium I confess that it hit me different the competition knows a very cool emotion. We managed to win the game of turn, it was a situation that impressed me a lot, but from that you manage the next phases that you face other teams so in these championships you are much calmer and know how things work." (C8)

Learning through reflection

The reflection is presented as an episode clearly seen as a learning potentialize, with which the coach realizes and understand certain content. At this stage, the coach ends up shaping his biography so he can develop himself and lead his athletes to a better performance.

In the statement of five coaches, "reassessment of goals, objectives and activities" (C3, C4, C6, C7, C8) was highlighted as an essential practice in the course of sports preparation.

"[...] my reflections concern if they have been able to evolve, reach the goal, the goal proposed for each exercise and if they had been able to develop in an adequate way everything the game requires of them". (C3)

"I reflect within the technical level on the opponents, the level of difficulty. At the end of each competition, I make a report and forward to the direction. This report includes the organization of the competition, the level of the competition, the level of the opponents, an individual analysis and a collective analysis of the athletes within what they did in relation to training." (C6)

In this process, it is always necessary to consider the collectivity and the individuality of the athletes and to not accommodate, even with victory, for evolution must be a continuous process.

In addition, coaches (C1, C3, C4, C5, C7) consider "self-evaluation" as an important component in the reflective process to assess their own coaching philosophy.

"Reflection we do all the time. All the videos that have of my team I watch a lot. When the game was really bad I watch it twenty times, I watch it with everyone. When the game is good we watch it once, edit what you want and that's it. When it does not happen what you want there you are reflecting. "What happened? What did I do wrong? What do I need to improve?" There you look at

the video, talk to the coaching staff and draw your conclusions. I think this is very important." (C1)

"[...] if the coach is convinced of certain ideas and does not change he is wrong, because football is constantly evolving." (C3)

It is essential to reflect if what they are doing and thinking is correct, having in mind the "coach-athlete relationship" (C1, C2, C5).

"You begin to reflect, you obviously begin to evolve as a coach. Start teaching some exercises, see what works, what goes wrong, go to the competitive area that there in the U10, U11 and U12 also still have a bit of a recreational character because they are very young yet. I think it's very important to reflect with the coaching staff and with my athletes, even because they need to know what I'm thinking. They need to know the way I see what they are doing." (C2)

Reflection in action is also evident at the C7 quote in the content on "activity adjustment" (C1, C7), in order to re-invent themselves and optimize the formation of their athletes.

"If I apply any simple work, they will not have the same motivation to carry out the work, this brings you problems during the training. Sometimes they break the rules of your training, sometimes they do not get motivated with the way you're doing the job. So that makes you have some reactions to reflect, to think, to improvise within the training itself." (C7)

Jarvis¹ explains that when we go through an experience, we can act, reflect, respond emotionally or any combination of these options. Regarding reflection, Jarvis⁴ defines that there can be non-reflexive thinking and reflective thinking. In the first case, learning occurs by memorizing (like copying a class content) and by the senses, being considered superficial because it has no meaning for the person, consequently does not lead to changes in society, but only reproduces it. In the second case, it occurs by contemplating an experience, based on a reflexive practice. In this way, individuals reflect on, evaluate, and learn from experiences. This can happen by giving meaning and deep understanding to each experience.

Some authors^{7,9,27} consider that coaches need time to think about the training schedule and what can be modified. This was considered a good practice by some coaches, regarding "reassessment of goals, objectives and activities" (C3, C4, C6, C7, C8).

In the findings of Callary, Werthner and Trudel¹³, the reflections served for coaches to better understand what to do and maintain athletes' confidence. This may be related to the reports of some coaches about "self-evaluation" (C1, C3, C4, C5, C7) and the "coach-athlete relationship" (C1, C2, C5), items important for personal, professional and social development. The concern, in the absence of a reflexive practice, would be the repetition of experiences, passed from generation to generation through the coach-athlete relationship, based on affection, without understanding and transforming each experience. 9,12,27,38

Conclusion

This study contemplates the content of learning perceived throughout the life by eight football coaches. All the participants

mentioned several content of learning from numerous episodes in their lives. The experiences as athletes and coaches seemed to represent more meaningful leaning for the coaches, emerging more categories of content of learning. "More learning" emerges from these episodes due to coaches were embedded in specific culture of football and the motivation and the content were related to their specific practice as coaches.

The low connection of specific content with the learning related to certification courses may explain the low value attributed to such contexts, even after a few years of the degree achievement (graduation period and specialization performed by the coaches). This undervalue can be explained by the generalist characteristic of the Physical Education and specialization courses, about which five coaches emphasized the "general knowledge" aspect. Furthermore, findings revealed that formal programs have a perspective focused on conceptual knowledge mastering without concern about of coaches' learning skills development. In attempt to increase meaning for coaches, content could be delivered stimulating reflective practice and involving the prior knowledge acquired before graduation, as reported as significant for all coaches in this study (e.g. experiences with family members while primary socialization; experiences as athletes while secondary socialization).

Another, key point that formal programs can explore is the internship period. This experience, playing the coach's role and involved with a club and other professionals, showed impact for some participants of this study, having strong potential to provide significative learning opportunity and integrate it into the coaches' biography.

Therefore, formal programs should organize relevant learning opportunities for coaches using multiple teaching strategies to motivate students, enhancing the understanding of specific content and developing learning skills in order to enable coaches to reflect critically on the nature and quality of their experiences. The results showed the importance to coaches become lifelong learners, mainly using reflective skills, considered essential by all participants. Thus, the coach may have been an athlete, have attended certification or non-formal courses, but the coach needs to be insatiable in thinking about learning and having the open conception to consider that he can learn from his childhood coaches, peers, professionals from other areas, while reflecting critically, among other actions in a continuous effort to improve their practice. In this way, coaches can be encouraged to learn through critical reflection and share their experiences with other coaches, and workplaces and agencies can promote such meetings.

The study showed learning content in different episodes of coaches' life. At this point professors, lecturers, head coaches, sport clubs directors, among other actors of the sport, can evaluate the specific contexts and amplify their actions to encourage coaches' learning. As these characters orient themselves and organize their actions based on the findings of this study, they can then develop initiatives that motivate coaches to incorporate several learning content in their biographies with a meaningful and continuous way.

The limitation of this study is the fact that secondary sources (photos, videos, reflective diaries) related to coaches' lifetime

experiences were not used to stimulate their memories during the description in the Rappaport Time Line, which could lead to more detailed interviews and give more depth to the data. Therefore, following guidelines to prioritize more consistent data¹³, we opted to analyze the content reported for more than one coach. The goal was to explore more robust, clear and meaningful data.

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