

Opportunities, Issues and Best Practices in Online Education and Examination of University Students

ONLINE COACH DEVELOPMENT COMPONENTS: THE TENNIS DISTAL METHOD COACH DEVELOPMENT

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Abstract. Taking for granted the new standards in sports in regard to the recent, still-evolving pandemic, Coach Development is seen through a new prism, based on the experience gained from an online tennis Coach Development course. At First, the role of the coach is discussed as an expert generalist and then the ideal components of Coach Development systems are presented. Finally, it is discussed whether these findings may be applied to online learning.

Keywords: online learning; expert generalists; motowords; drill structure; analytic method

Introduction

At this point in time, the course of the COVID-19 pandemic is not certain and debating about it is best left to medical experts and special journals. What is certain and relevant for our discussion here, is that no matter the course this pandemic will take, the world will not be the same afterwards. This is especially true for education, sports events, and (live) entertainment, domains of human activity that were traditionally viewed as social in the sense of people getting together. For better or worse and for whatever valid or invalid reason, new ethea are established. Whether this pandemic or another pandemic(s) resurge or recede, the new online world is here to stay.

In this article we are going to discuss what this means for the online education domain. I have already discussed elsewhere whether it is possible or not, and how, to develop coaches online, especially regarding technical sports such as tennis (Papageorgiou, 2020). I shall expand on the notion of Coach Development (CD) and discuss what it takes to build an online CD System. Again, our reference point is the Distal Method Coach Development. After presenting the ideal goals of CD and the means available online, I will conclude by evaluating the compatibility between them (goals & means). The best starting point is to explore the role of the coaches themselves.

1. The Secondary Synthetic Trainer Model (SSTM)

D. E. Lekkas has presented the origin of arts using the analytic method to explain how arts occurred from the primeval unified ritual (Lekkas, 2018). In the ancient “primary synthetic ritual” the same one person sang and danced, being both the choreographer, the composer and the musician (as one would say *today*). Centuries later, in the secondary synthetic ritual, the composer and the choreographer became different persons with a different kind of expertise. Likewise, the early trainers did everything by themselves: from nutritional advice to strength training.

In our era of specialization, we have witnessed the extreme breakup of the old type of teacher to all kinds of segmented experts whose range of duty and, of course, *responsibility*, is decreasing every time a new specialization is *invented*. Thus, a biomechanics expert needs not be knowledgeable in pedagogy, a sports psychologist needs not be knowledgeable in sports nutrition, a physical conditioning trainer needs not be knowledgeable in philosophy and a sports trainer needs not be knowledgeable in, well, anything; other experts should supplement the training session.

However, athletes need constant assistance *holistically*. Athletes cannot wait for a separate session with a psychotherapist in order to incorporate a new experience (training sessions are full of such experiences!); they cannot wait for a pedagogist to dictate the best teaching style to other specialized trainers; they cannot wait for a sports psychologist to adjust their arousal level (in every-day practice), and so on and so forth. The same trainer must be not only knowledgeable but *minimally competent* in all different fields. Trainers need not be, or even cannot be, *contributory* experts in all fields, but they certainly can – and *must* – become contributory expert *generalists* in most, if not all, relevant fields. Contributory expert specialists in say, psychology, may periodically intervene – as is already the case. I am well aware that expertise means *authority* and *political power*; however, one should realize that I am not in favor of trainers becoming contributory expert specialists in all fields; they should rather have a meaningful general overview. Certification programs should also reflect this need, whether in person or online (Born, Nguyen, Grambow, Meffert, & Vogt, 2018).

Athanailidis et al. (2015) are generally in favor of such a “multidimensional education” in tennis, but without providing specific guidelines, other than referring to the need for trainers to be taught “the basics” (Athanailidis, Laios, & Zaggelidis, 2015). Recognizing an “overall uncertainty surrounding the education of tennis coach”, they do refer to the need of creating such a certification program (85,5% of Greek coaches asked were positive) and the need for the existence of a single *curriculum*. Indeed, in tennis new approaches are needed to both nurture individuals holistically and to prepare for the future demands of the sport (Grambow, O’Shannessy, Born, Meffert & Vogt, 2020).

The Distal Method Coach Development (DMCD) has already been taught to several coaches here in Greece (in person). It requires about 15 hours of intensive training, 12 of them being on-court¹. We have seen that the biomechanical model

and the method to teach it is the most demanding part (in terms of time and effort); however, all other areas covered are also intriguing for the coaches who usually have never heard of such concepts before, concepts peculiar to the Distal Method and motor learning, but also to philosophy, pedagogy, expertise and psychology.

Both myself and other coaches are training athletes using the tennis Distal Method, but there are no full-time athletes being developed using the Distal Method (professionalism in tennis is rare in Greece). Stefanos Tsitsipas (the best Greek tennis player so far, currently ranked at No. 6 in the world) has not used the Distal Method in full (and I do not know to what extent he may have used it); however, his (official) trainer (and father), Apostolos Tsitsipas, did actually endorse the (Greek) 330-page tennis Distal Method handbook (in written on the back-cover – 31).

Next, I will present the ideal components of CD programs, which are also the components of DMCD, but most importantly, their rationale; it is these very components that will “transform” the coaches to expert generalists (and experience together with e.g. other specialized seminars about the components presented here are going to also make them “contributory” expert generalists).

2. The “ideal” components of a Coach Development Program

In a previous article (in Greek) the author identifies 5 + 3 areas of interest for any learning method, either online or in person, particularly concerning motor skills (Papageorgiou & Papadopoulos, 2018). In brief then, these areas are 1. Biomechanics, 2. Perceptuomotor, 3. Pedagogical 4. Mental, 5. Emotional:

1. Biomechanics: what is the correct model of movement? In biomechanics the correctness criteria are: ergonomics, kinetic chain, biomechanical advantage (Edwards, 2010; Papageorgiou, 2016).

2. Perceptuomotor: how is the “correct biomechanical model” going to be practiced optimally? Criteria of optimal practice: i. training program: random, serial, blocked, ii. task organization: partial, total, iii. training volume: bulk, segmented.

3. Pedagogical: what is the best way to instruct the athlete to perform their practice program? Pedagogy is also related to *physical literacy*; a notion necessary for “healthy” (meaning also “ethical”) holistic development.

4. Mental: what mental skills are required for better learning and high-level performance? How should an athlete develop them? The need for specialized mental skills-training is one of the key-aspects of athletes’ development.

5. Emotional: how is the athlete going to better cope with the training-load while, at the same time, improve their *understanding*? Affective development has been neglected (Papageorgiou, 2018b) in the typical school education, let alone in sports training. Understanding *itself* is a prerequisite of high performance, thus a type of emotional training is needed (e.g. theatre pedagogy).

DMCD is also based on the interconnection among the cognitive, the emotional and the physical substrates of performance (Papageorgiou, 2019); this interconnec-

tion is supported by a growing body of research in the fields of neurophysiology and psychology (Kantak & Winstein, 2012; Poletti et al., 2011; Rosenbaum, Augustyn, Cohen & Jax, 2006: 506): from common neurophysiological principles of both perceptual-motor and intellectual skills acquisition (Rosenbaum et al., 2006: 506) to the same encoding of facts and motor skills in long term memory (Kantak & Winstein, 2012: 222). Reasons for dropping out of courses were found to be highly similar in arts, athletics, mathematics, music and science (Rossum, 2009: 782–783). Decision making is affected by emotions in both mental and motor domains (Carta et al., 2013, p. 190; Kano, Ito, & Fukudo, 2011; L. P. Latash, 1998: 82–83; Poletti et al., 2011).

Three more, interconnected components, are:

6. Philosophy: how are we going to make the whole process more *meaningful*? Educators, philosophers and psychologists agree that ethical conduct, values and character are *taught*, not merely *caught* (Harvey, Kirk & O'Donovan, 2014; Kirk, 2013a; Pot, Whitehead & Durden-Myers, 2018).

7. Spirituality: what are the consequences of learning for the development of the athletes' self-consciousness and their spiritual identity? The author has argued elsewhere that learning and therapy are the two sides of the same coin; therapy may be defined as the increase in one's consciousness level (Papageorgiou, 2018a).

8. Social: how are the athletes going to develop their identity as experts? Expertise has strong social connotations: it reflects both the needs and the expectations of the general public and of the politicians whose approval and acknowledgement are crucial for any expertise domain to grow. Expertise² is based on a social convention regarding which kind of behavior expresses “superior performance”. In tennis we accept tennis players (athletes) as tennis coaches (scientists). Is that not a social convention?

DMCD stresses the last three components, heavily. When discussing the development of experts, one has to consider both their personal growth, their social role and identity. Philosophy, psychology and pedagogy are the keys for the successful completion of the development of individuals.

After the still-persisting turmoil in philosophical discussions about the “real” value of physical education (let alone about high-performance attainment), considerable progress has been made in support of the physical, lifestyle, affective, social, cognitive and ethical contributions of physical education (Kirk, 2013a). This is in line with our approach here about contributory expert generalists. The persisting questions about the value of physical education should and indeed do penetrate the field of high-performance attainment models (such as the Distal Method). Athletic training is a field that has been accused of whole-heartedly sacrificing values if even the most minor performance gain is to be achieved. Sports reflects socio-political reality, both local and international; it is then of no surprise that the Nietzschean Superhuman idea has been greatly misinterpreted in sports (as well), from an

inner goal of all humans, to super capacities we should reach at any cost (Goggaki, 2014). The athletic idea has been established as a value already since classical Greece. It had been expressed through the spirit of the Olympic Games – a spirit no longer alive, but in need of resurrection (Goggaki, 2013). Modern sports-spirit comes in striking contrast to the ideal expressed by early philosophers; for Democritus, humanity is a value *per se*. In the modern era of professionalism in sports, young athletes seek quick recognition, fame and money, while not usually being *explicitly* taught any principles of good sportsmanship. We should educate coaches to identify and promote such values.

Sports does not even build character as many would expect – at least not when character building is not “practiced” intentionally (Harvey et al., 2014). The *commonplace consensus* about sports (attacked by Kirk – 50) is a widespread “disease” needing to be disqualified even among professional coaches themselves. We should develop literate and enthusiastic sportspersons (Kirk, 2013b), but first, we should render trainers themselves literate in all those aspects/concepts. Physical literacy is a concept, or stance, towards physical education which needs to be explicitly taught and developed. Educators should become physically literate firstly and foremostly; only then may we expect athletes to also develop towards becoming physically literate. Unfortunately, the average (tennis) trainer is usually, only a former athlete; hence they are often merely interactional expert coaches who have not developed the necessary attitude towards physical literacy. Even more disappointingly, unlike the DMCD, certification programs do not even refer to such pedagogical ideas – let alone philosophy and sociology.

The DMCD components resonate well with various similar/intersecting holistic approaches from the two most relevant scientific domains, i.e. pedagogy and Science of Exceptional Achievement (SEA).

In a way, SEA and pedagogy have conflicting missions, yet they are complementary when looking at the broader picture. The former seeks specialization, whereas the latter seeks generalization. Usually, general knowledge is provided first, and specialization follows. Pedagogy provides all necessary tools needed for later on, in the phase of specialization: tools such as motivation builders, learning strategies and coping skills. However, it is interesting that even within the SEA paradigm the notion of a general expert, or polymath, has already been described (Epstein, 2019; Root-Bernstein, 2009). The poor results of the one-sided expertise system are visible in tennis, where everybody’s obsession is to make players that play just like Federer (now it is Federer, some years ago it was Sampras, some years later it will be someone else). Federer or Sampras may be excellent players, however, copying players is an invalid methodology for creating learning systems. Such role models are needed for motivation. Still, a complete development system should provide to the coaches all necessary tools for player development so that role models can be used for motivation and not as “moulds” to develop new players. Usually, because

in tennis there are neither complete biomechanical models nor ways to effectively teach them, coaches only use examples of top players wherever this suits their needs both positively (“do it because Federer does it!”) and negatively (“you cannot do it because, hey, you are not Federer!”).

Theory in science (e.g. “biomechanics”) should be developed in abstraction and not based on observations. Developing any theory based on observations or experiments is a classic logical fallacy (Papageorgiou & Lekkas, 2020) *not* repeated in the Distal Method. *Theory* is neither observable nor verifiable (not even falsifiable); it is an indirect guiding principle as good as our own (biased) interpretations of it. Here, I provide such theoretical approaches and their practical interpretation in the form of the DMCD components.

The DMCD expresses important pedagogical paradigms, while it is equally influenced by SEA. Pedagogical knowledge of teachers seems to also positively affect student’s knowledge (Kim et al., 2018); knowledge *per se* is the most important characteristic of experts (Ericsson & Moxley, 2013). Even at a much younger age, when merely playing seems to be the sole concern of children, it has been found that (procedural) knowledge is of great value: the more advanced the fundamental skill-component is, the easier and lengthier the participation in free play becomes (Tsuda, Goodway, Famelia, & Brian, 2019). When coaches combine pedagogy, psychotherapy (as a means to enjoy life), biomechanics and motor learning, then players will not be some kind of “robots” playing in a specific way (a specific technical form), but they will be able to effectively develop their own personal *style*. A “good technique” in any activity is the ability to perform a task efficiently (in tennis it has to do with e.g. using the biomechanical advantage, the whip effect or the kinetic chain). Coaches may educate players to feel what works better for them: a proper technical form should feel as the most natural thing in the world. If junior players wanted to e.g. hit a certain type of shot to copy their role model, that is fine. However, role models are just one type of influence. The real question is, do coaches have the tools and the means to provide to their athletes a rich spectrum of appropriate influences? Or to specialise this question even more, can such tools be provided online?

Case study: the tennis DMCD online course

While the tennis DMCD has been systematically taught in-person, either privately or in small groups, lately the DMCD online course is available as well. It provides all components that make up the DMCD in the form of videos and texts. DMCD provides both Coach Development and, separately, Coach Certification (via live webinars).

The structure of the course

It is crucial to understand what this course offers since it represents a whole new paradigm in tennis training. The general idea is that there are two performance spirals, one motor and one for fitness, which take athletes from preparatory exercises

to technical form exercises and then to competition exercises again and again. As briefly as possible, the steps, the flow and the contents of the course are:

1. It starts with the biomechanical model, which is universal, abstract and ideal.

2. The application of the model to a human body results in the *technical form*.

We will talk about *technical style* later.

3. The application or interpretation of the biomechanical model cannot happen automatically. Coaches also learn about:

I. a universal (intersubjective) *operating principle* of the shot (simplification),

II. the reference points (anchors) for body positioning, and based on this, the operating principle will be translated into form,

III. a fundamental static teaching exercise based on the reference points and the operating principle that will transform the biomechanical model to a meaningful form.

4. Two models for motor learning: one without using a racket (S+B+L+M)³ for improving motor control and performance and one with a racket for learning the strokes (SBLM).

5. Two models for physical conditioning: one without using a racket (S+F+S+B)⁴ for improving tennis-related physical conditioning and one with, for improving tennis-specific physical conditioning (SFSB).

6. Drill synthesis where different strokes are combined, while taking into consideration the motor learning principles (practice programs/distribution/variability etc.)

Note: all the aforementioned components develop the technical form *but not* the game.

7. Drill structure (practicing scenarios but not combinations) improves playing ability and it is the prerequisite for attempting to practice tactics.

8. The two Performance Spirals guide coaches on how to periodize all the aforementioned exercises.

9. Motowords help coaches to communicate better with their athletes, to adjust the Contextual Interference level and to engage the athlete's mental resources.

10. Differential Training and Differential Self Training are two exercise modes that enhance the athlete's initiative, increasing the ecological validity of the training.

11. Sports psychology tools and NLP help coaches create the most effective training environment, but also help to train the athlete mentally.

12. Following these again and again the athlete develops unique technical and tactical adaptations, that is, *style*.

13. Theatre pedagogy and psychotherapy are important in order to help our athletes evolve emotionally, which is necessary for the development of style as well, but also to enjoy training more and release any stressors (however, we cannot and should not attempt to intervene in clinical psychopathological cases!).

The study of Expertise (not only as biology but as sociology as well), together with the study of Ethics will help (the coach to assist) the athlete in developing their own identity and life purpose.

The different parts of the tennis DMCD are shown in Figure 1.

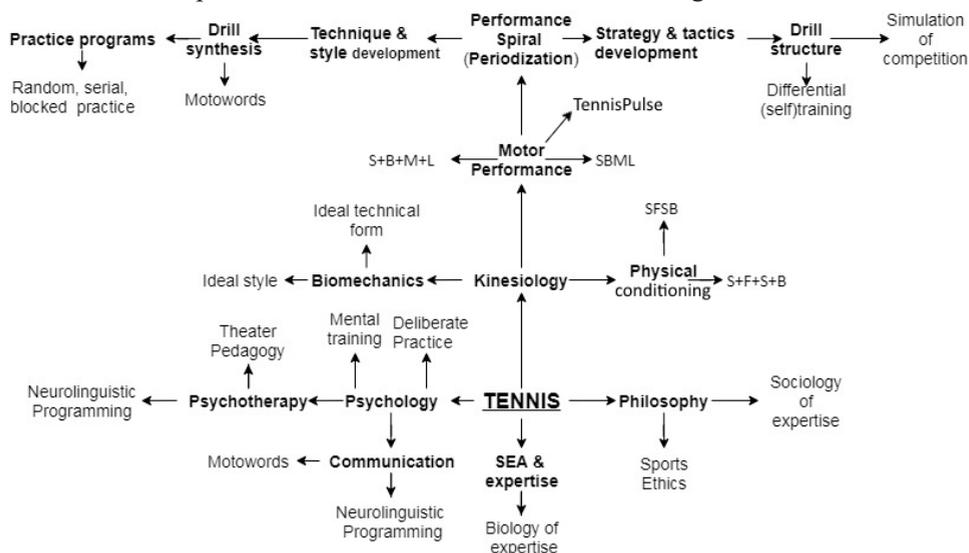


Figure 1. Constituents of expert motor performance, interconnections and the tools provided within the DMCD for their development.

The starting point is TENNIS. Again, SFSB & S+F+S+B, SBLM & S+B+L+M stand for: Strength, Flexibility, Speed, Balance & Stance, Ballistics, Locomotion, Manipulation, respectively. SEA: Science of Exceptional Achievement

Finally, the criteria for the selection of the DMCD constituents were:

- I. empowerment, for its participants;
- II. effectiveness, via the tools it provides;
- III. breadth and width, i.e. to holistically address all the developmental parameters (physical, mental);
- IV. balance, as far as theory and practice are concerned;
- V. enrichment, i.e. to provide many approaches to address each issue.

Conclusion

The plausibility for effective online Coach Development is demonstrated at least for tennis. This conclusion may be drawn based on the compatibility between goals and means, as they have been described in this paper. The tennis DMCD is one of the first holistic attempts to bridge the gap between in person and online Coach Development systems in technical sports. In the future we expect a plethora of both theoretical research and case studies in this promising new field.

NOTES

1. The basic theory about expertise, ethics and mental training are taught off-court.
2. Defined as: repetitively superior and superiorly repetitive representative performance (K. A. Ericsson, Nandagopal, & Roring, 2009).
3. Stance, Balistics, Locomotion, Manipulation.
4. Strength, Flexibility, Speed, Balance.

REFERENCES

- Athanailidis, I., Laios, A. & Zaggelidis, G. (2015). The educational system of coaching schools in tennis. The case of Greece. *Journal of Physical Education and Sport*, 15(2), 208 – 211. <https://doi.org/10.7752/jpes.2015.02032>
- Born, P., Nguyen, N. P., Grambow, R., Meffert, D. & Vogt, T. (2018). Embedding tennis-specific teaching videos into long-term educational concepts to improve movement learning and technique performances. *Journal of Physical Education and Sport*, 18(1), 255 – 261. <https://doi.org/10.7752/jpes.2018.01034>
- Carta, M. G., Sancassiani, F., Pippia, V., Bhat, K. M., Sardu, C. & Meloni, L. (2013). Alexithymia is associated with delayed treatment seeking in acute myocardial infarction. *Psychotherapy and Psychosomatics*, 82(3), 190–192. <https://doi.org/10.1159/000341181>
- Edwards, W. H. (2010). *Motor Learning and Control from Theory to Practice*. California: Wadsworth.
- Epstein, D. (2019). *Range: How generalists triumph in a specialized world*. Penguin.
- Ericsson, K. A. & Moxley, J. H. (2013). Experts' Superior Memory: From Accumulation of Chunks to Building Memory Skills that Mediate Improved Performance and Learning. In T. J. Perfect & D. S. Lindsay (Eds.), *The SAGE Handbook of Applied Memory*. SAGE Publications Ltd.
- Ericsson, K. A., Nandagopal, K. & Roring, R. W. (2009). Toward a science of exceptional achievement: attaining superior performance through deliberate practice. *Annals of the New York Academy of Sciences*, 1172, 199 – 217. <https://doi.org/10.1196/annals.1393.001>
- Goggaki, K. (2013). Modern sports ethics through the looking glass of value-crisis. In K. Goggaki (Ed.), *Sports Ethics within a Civilization in crisis* (pp. 69 – 81). Athens: Papailiou.
- Goggaki, K. (2014). The vision of the superhuman and the posthuman future: plans, gains, utopies. In K. Goggaki & I. Kalogerakos (Eds.), *Philosophy and Sports* (pp. 113 – 130). Athens: Papailiou.

- Grambow, R., O'Shannessy, C., Born, P., Meffert, D. & Vogt, T. (2020). Serve efficiency development at Wimbledon between 2002 and 2015: A longitudinal approach to impact tomorrow's tennis practice. *Human Movement*, 21(1), 65 – 72.
- Harvey, S., Kirk, D. & O'Donovan, T. M. (2014). Sport Education as a pedagogical application for ethical development in physical education and youth sport. *Sport, Education and Society*, 19(1), 41 – 62.
- Kano, M., Ito, M. & Fukudo, S. (2011). Neural substrates of decision making as measured with the Iowa Gambling Task in men with alexithymia. *Psychosomatic Medicine*, 73(7), 588 – 597. <https://doi.org/10.1097/PSY.0b013e318223c7f8>
- Kantak, S. S. & Winstein, C. J. (2012). Learning-performance distinction and memory processes for motor skills: a focused review and perspective. *Behavioural Brain Research*, 228(1), 219 – 231.
- Kim, I., Ward, P., Sinelnikov, O., Ko, B., Iserbyt, P., Li, W. & Curtner-Smith, M. (2018). The Influence of Content Knowledge on Pedagogical Content Knowledge: An Evidence-Based Practice for Physical Education. *Journal of Teaching in Physical Education*, 37(2), 133 – 143.
- Kirk, D. (2004). Framing quality physical education: the elite sport model or Sport Education? *Physical Education & Sport Pedagogy*, 9(2), 185 – 195.
- Kirk, D. (2013a). Educational Value and Models-Based Practice in Physical Education. *Educational Philosophy and Theory*, 45(9), 973 – 986.
- Kirk, D. (2013b). Educational Value and Models-Based Practice in Physical Education. *Educational Philosophy and Theory*, 45(9), 973 – 986.
- Latash, L. P. (1998). Automation of movements: Challenges to the notions of the orienting reaction and memory. In M. L. Latash (Ed.), *Progress in Motor Control: Bernstein's Traditions in Movement Studies* (pp. 51 – 88). Human Kinetics.
- Lekkas, D. (2018). Fundamental issues in arts. In K. G. Papageorgiou (Ed.), *Towards a structural theory of art* (pp. 34 – 123). Athens: Dromon.
- Papageorgiou, K. G. (2016). An Analysis of the Kinetic Chain Model in Forehand Drive. *Medicine & Science in Tennis*, 21(2), 22 – 26.
- Papageorgiou, K. G. (2017). *Tennis: The Distal Method*. Athens: Kondyli.
- Papageorgiou, K. G. (2018a). *From Therapy and Enhancement to Learning and Performance*. Athens: Lexitypon.
- Papageorgiou, K. G. (2018b). *Magical Thinking*. Athens: λeξίτυπον.
- Papageorgiou, K. G. (2019). The Distal Method: from psychomotor education to motor expertise. *Journal of Physical Education and Sport*, 19(1), 633 – 644. <https://doi.org/10.7752>

- Papageorgiou, K. G. (2020). Online coach development and certification programs in sports: are they possible? *Central European Journal of Sport Sciences and Medicine*, 29(2).
- Papageorgiou, K. G., & Lekkas, D. (2020). Verification in theory and in the sciences. *Epistēmēs Metron Logos*, (3), 25. <https://doi.org/10.12681/eml.22106>
- Papageorgiou, K. G. & Papadopoulos, S. (2018). Theatre pedagogy and the Distal Method in psycho-social development. *Applied Pedagogy* (Gr.), (9), 1 – 19.
- Poletti, M., Frosini, D., Pagni, C., Lucetti, C., Del Dotto, P., Tognoni, G. & Bonuccelli, U. (2011). Alexithymia may modulate decision making in patients with de novo Parkinson's disease. *Functional Neurology*, 26(3), 127 – 131. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/22152433>
- Pot, N., Whitehead, M. E. & Durden-Myers, E. J. (2018). Physical Literacy from Philosophy to Practice. *Journal of Teaching in Physical Education*, 37(3), 246 – 251. <https://doi.org/10.1123/jtpe.2018-0133>
- Root-Bernstein, R. (2009). Multiple Giftedness in Adults: The Case of Polymaths. In L. Shavinina (Ed.), *International handbook on giftedness* (pp. 853 – 872). Springer.
- Rosenbaum, D. A., Augustyn, J. S., Cohen, R. G. & Jax, S. A. (2006). Perceptual-Motor Expertise. In K. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 505 – 522). Cambridge University Press.
- Rossum, J. H. A. van. (2009). Giftedness and Talent in Sport. In L. Shavinina (Ed.), *International handbook on giftedness* (pp. 751 – 792). Springer.
- Tsuda, E., Goodway, J. D., Famelia, R. & Brian, A. (2019). Relationship Between Fundamental Motor Skill Competence, Perceived Physical Competence and Free-Play Physical Activity in Children. *Research Quarterly for Exercise and Sport*, 1 – 9. <https://doi.org/10.1080/02701367.2019.1646851>

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