



The role of tennis in developing physical literacy

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ABSTRACT

Tennis may just be the perfect sport along the journey of physically literacy. Few sports can claim all the lifelong benefits that tennis provides. These benefits include physical, psychological, social and emotional aspects that lead us to achieving the competence, confidence and desire to enjoy physical activities for a lifetime. That is exactly what physical literacy is all about. Tennis can be played at almost any age in multiple environments, requires only one partner to play with, has multiple health benefits and certainly provides players with significant enjoyment while competing.

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INTRODUCTION

Physical literacy as defined in SHAPE America's National Standards & Grade-Level Outcomes for K-12 Physical Education (2014) and Mandigo et al. (2012) is "the ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person" (p. 27). Other definitions have been put forth but embracing physical literacy as a desirable outcome clearly allows us to enhance physical education, physical activity and sport programs throughout the world (Roetert & Jefferies, 2014).

Although one of the first uses of the term physical literacy in the United States referred to young army recruits being physically illiterate (National Physical Education Service, 1938), it was revived again as an updated concept fairly recently. More than sixty years later, Great Britain's Margaret Whitehead shared her landmark paper entitled "The Concept of Physical Literacy" (2001) where she stated that physical literacy must encompass more than physical skills; it must include an ability to read the environment and to respond effectively. We can't think of a sport more appropriate than tennis to teach these exact skills. Whitehead (2013) later asserted that not all contexts throughout the years were related to physical activity. Since Whitehead's initial paper, the concept has been discussed, shaped, adopted and implemented with success in number of different countries. Much of this was based on her recommendation to address concerns that:

- Fewer people are continuing with physical activity after leaving school.
- Sedentary leisure pursuits are on the rise.
- Cases of obesity and stress related conditions are increasing.
- In many schools and other physical activity settings there was, and is, a subtle move towards high level performance being the principal focus of the subject.

In our opinion, the sport of tennis is in a unique position to address these concerns. Physical education classes as well as sports activities are offered during and after school hours in most countries. However, when children enter adulthood, an effort to continue physical activity either through sports or leisure pursuits has to consciously be made. Even during the school years, many students engage in video games and other sedentary electronic activities. All this has led to increases in obesity and overall physical inactivity. This is where the sport of tennis has a distinct advantage over many other sports.

Although tennis can be played at very high levels of competency, players of all abilities can enjoy the many physical activity benefits throughout a lifetime. As a sport for a lifetime it can be played at all skill levels and provides excellent physical activity both competitively and recreationally. As tennis skill improves, players become more physically literate by understanding the different components of the sport such as reading the environment and responding appropriately. This includes psychological, social and physical benefits.



LONG-TERM ATHLETIC DEVELOPMENT

The concept of physical literacy is very much in line with the goals of the structured pathway of Long-Term Athlete Development (LTAD). The pathway of LTAD allows players to optimize their development at all ages and stages based on their developmental age and the maturational level rather than chronological age.

As stated by Balyi and Hamilton (2003), a specific and well-planned training, competition and recovery regime will ensure optimum development throughout an athlete's career, with success based on training and performing well over the long term rather than winning in the short term. However, as Lloyd et al. (2015a) point out, ensuring that youth of all ages and abilities are provided with a strategic plan for the development of their health and physical fitness is also important to maximize physical activity participation rates, reduce the risk of sport- and activity-related injury, and to ensure long-term health and well-being.

Coaches must therefore provide individualized programs based on the needs of each player to motivate them towards a lifetime of participation. Players should be provided with

individualized development programs to motivate them for lifetime engagement in tennis and physical activity in general. Lloyd et al. (2015b) appropriately point out that from an athletic development perspective, it is important to expose youth to a variety of movement patterns to ensure that a child can competently perform a breadth of movement skills in a range of different activities and environments before specializing in specific movement patterns within a single sport. This is in line with Roetert and Couturier MacDonald (2015) who point out that at early ages the activities or curriculum should be focused on fundamental movement skills and combinations that are applied in specific games, sports, and physical activities in later years.

Tennis by itself certainly provides many strength, flexibility, coordination, speed, agility and other health benefits, yet should also be supplemented by other physical activities particularly early on in development. Another reason for this is that a high proportion of youth who specialize early will not successfully reach the highest level of elite tennis and will therefore require a requisite level of athleticism to support lifelong participation in other sports and physical activities.

Although it is difficult to identify a definitive age at which to start formalized training, most 7 and 8 year olds are ready for some type of structured training as part of fitness recreation, sports practice, or physical education. However, younger children (≤ 7 years of age) should still be encouraged to engage with less formalized structured and unstructured activities to promote kinesthetic development and physical literacy.

Modified equipment

The benefits of learning the sport of tennis with modified equipment have been promoted as allowing children to enjoy the game more based on an early success rate, the ability to compete at an earlier stage and the use of proper biomechanics based on racket size, court size and height of ball bounce. These benefits all form the basis for learning proper motor skills; a key component and building block of helping players become physically literate. Several studies have shown the benefits of using modified equipment when teaching beginner players particularly children. Quezada et al. (2000) studied the influence of pre-tennis on the development of motor patterns of children of 5 years of age. The motor patterns studied were running, throwing, catching, jumping and hitting. Results showed that all children significantly improved in each of the motor patterns studied. The percentage of improvement in the different motor patterns studied varied depending on the subject, and several children improved much more than expected. The overall conclusion was that pre-tennis activities can be used as a means to develop basic motor patterns of children aged 5 years, which will lead to a better adaptation to the following practice of any sport.



Both Pellet & Lox (1997) and Buszard, Farrow, Reid & Masters (2014) found benefits to learning the game with modified rackets. Pellet & Lox (1997, 1998) examined the effects of

three racket lengths (26, 27, and 28 inches) in relation to beginning player skills test. Results indicated that students who used the shorter 26-inch racket attained greater achievement for the forehand groundstroke. Buszard, Farrow, Reid & Masters investigated the influence that varying racquet sizes and ball compressions had on children's ability to play a forehand groundstroke. The study demonstrated the benefits for young children playing with scaled racquets and low-compression balls. Other studies have highlighted the benefits of using low-compression balls and scaled tennis courts in skill acquisition, ball control, velocity and overall success rate (Farrow and Reid, 2010; Buszard, Farrow, Reid & Masters, 2013; Larson and Guggenheimer, 2013; Kachel, Buszard and Reid, 2014). It appears clear that modified tennis courts and equipment accelerates the acquisition of skills required to play tennis helping to provide the foundation for physical literacy in young tennis players. The best way to obtain physical literacy in sports such as tennis is to seek the guidance of a well-qualified coach.

The Coaches' Role

Duffy and Lara-Bercial (2013) have stated that the education and development of suitably qualified and skilled coaches at all levels

of the participation spectrum is paramount to the fostering of motivated, confident and competent individuals who value and take responsibility for pursuing meaningful physical activity throughout their lives. This can be accomplished through the development of an International Sport Coaching Framework (International Council for Coaching Excellence, Association of Summer Olympic International Federations and Leeds Metropolitan University, 2012) to provide a common, worldwide set of criteria to inform, guide and support the development and qualification of coaches. The practical outcome according to Duffy and Lara-Bercial is to align coach education and development with the needs and wants of participants, but to promote coaching that goes beyond the teaching of any technical skills and towards the fostering of the holistic development of the person and an intrinsic desire and motivation to be and remain involved in sport and physical activity for life. Roetert and Bales (2014) concur in stating that among future challenges in coaching education are:

- Conducting research that further identifies the implications of coaching knowledge and ability on athlete development.
- The need to decide the role of physical literacy in coaching education.
- Developing an age-appropriate body of knowledge to coach educators of all levels.

CONCLUSION

With that in mind, the International Tennis Federation (ITF) has been instrumental in its efforts to introduce and promote tennis worldwide, develop coaching education programs, design a robust competitive structure for all ages and introduce age-appropriate modified equipment for young developing players. These efforts have all been very much in line with the concept of physical literacy.

REFERENCES

- Balyi, I. & Hamilton, A.E. (2003). Long-term athlete development, trainability and physical preparation of tennis players. In *Strength and Conditioning for Tennis*, Reid, M., Quinn, A. & Crespo, M. Editors. International Tennis Federation.
- Buszard, T., Farrow, D., Reid, M. & Masters, R. S. W. (2013). *Scaling sporting equipment for children promotes*

- implicit processes during performance. *Scandinavian Journal of Medicine & Science in Sports*.
- Buszard, T., Farrow, D., Reid, M. & Masters, R. S. W. (2014) Modifying Equipment in Early Skill Development: A Tennis Perspective. *Research Quarterly for Exercise and Sport*, 85:2, 218-225. <https://doi.org/10.1080/02701367.2014.893054>
- Duffy, P. & Lara-Bercial, S. (2013). Coaching without Borders: the Role of the international Sport-Coaching Framework in Promoting Physical Literacy Worldwide. *ICSSPE Bulletin*, 65, October, 242- 251.
- Farrow, D. & Reid, R. (2010). The effect of equipment scaling on the skill acquisition of beginning tennis players. *Journal of Sports Sciences*, 28:7, 723-732. <https://doi.org/10.1080/02640411003770238>
- ICCE, ASOIF & LMU (2012). International Sport Coaching Framework. Campaign III. Human Kinetics. Available at: http://www.icce.ws/_assets/files/news/ISCF_1_aug_2012.pdf, accessed: October 12, 2015.
- Kachel, K., Buszard, T. & Reid, R. (2014): The effect of ball compression on the match-play characteristics of elite junior tennis players. *Journal of Sports Sciences*.
- Larson, E.J. & Guggenheimer, J.D. (2013). The Effects of Scaling Tennis Equipment on the Forehand Groundstroke Performance of Children. *Journal of Sports Science and Medicine*, 12, 323-331
- Lloyd, RS, Oliver, JL, Faigenbaum, AD, Howard, R, De Ste Croix, MBA, Williams, CA, Best, TM, Alvar, BA, Micheli, LJ, Thomas, DP, Hatfield, DL, Cronin, JB, and Myer, GD. Long-term athletic development: Part 1: A pathway for all youth. *J Strength Cond Res* 29(5): 1439-1450, 2015.
- Lloyd, RS, Oliver, JL, Faigenbaum, AD, Howard, R, De Ste Croix, MBA, Williams, CA, Best, TM, Alvar, BA, Micheli, LJ, Thomas, DP, Hatfield, DL, Cronin, JB, and Myer, GD. Long-term athletic development: Part 2: Barriers to success and potential solutions. *J Strength Cond Res* 29(5): 1451-1464, 2015.
- Mandigo, J., Francis, N., Lodewyk, K. & Lopez, R. (2012). Physical Literacy for Educators. *Physical Education and Health Journal*, 75 (3), 27-30. National Physical Education Service. (1938). *J. of Health and Physical Education*, 9, 424-428.
- Pellet, T.K. & Lox, C.L. (1997). Tennis racket head size comparisons and their effect on beginning college players' playing success and achievement. *J. of Teaching in Physical Education* .16 : 490- 499.
- Pellet, T.K. & Lox, C.L. (1998) Tennis racket head size comparisons and their effect on beginning college players' achievement and self-efficacy. *J. of Teaching in Physical Education*. 17 (4): 453-467. <https://doi.org/10.1123/jtpe.17.4.453>
- Quezada, S., Riquelme, N., Rodriguez, R. and Godoy, G. (2000). Mini-tennis. *ITF Coaches Review*, 20, 21-24.
- Roetert, E.P. & Jefferies, S.C. (2014). Embracing Physical Literacy. *Journal of Physical Education, Recreation and Dance*. 85 (8): 38- 40.
- Roetert, E.P. & Bales, J. (2014). A global approach to advancing the profession of coaching. *International Sport Coaching Journal*. Vol. 1 (1), 2-4. <https://doi.org/10.1123/iscj.2013-0026>
- Roetert, E.P. & Couturier MacDonald, L. (2015). Unpacking the physical literacy concept for K-12 physical education: What should we expect the learner to master? *Journal of Sport and Health Science*. 4, 108-112.
- SHAPE America. (2014). National Standards & Grade-Level Outcomes for K-12 Physical Education. Human Kinetics.
- Whitehead, M. (2001). The Concept of Physical Literacy. *European Journal of Physical Education*, 6, 127-138. <https://doi.org/10.1080/1740898010060205>
- Whitehead, M. (2013). The History and Development of Physical Literacy. *ICCPE Newsletter*. October.

RECOMMENDED ITF TENNIS ACADEMY CONTENT (CLICK BELOW)



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