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Empowering Athletes with the Sport Education Model in Youth Soccer

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Abstract

Athlete empowerment accentuates giving athletes autonomy for decision-making with the clear purpose of offering them opportunities to make choices, be responsible, and develop higher levels of motivation. The focus in Sport Education is on placing the athlete in the center of the experience where the participant can become competent, literate, and enthusiastic as a result of participation. This is in line with the nonlinear pedagogical approach, where the learning processes can be structured by manipulating performer constraints. Therefore, this chapter focuses on examining and understanding the processes involved in athlete learning through manipulating performer constraints when using the Sport Education model in Finland. Twenty-three players and their three coaches from one junior sport club participated in the study. The Sport Education season consisted of 11 practice sessions over 8 weeks. Data were collected through interviews, observations, questionnaires, and document analysis. Results suggested that players were united within their small teams and that they enjoyed having the autonomy and responsibility. As a conclusion, the Sport Education season implemented through manipulating performer constraints facilitated perceptions of empowerment, which in turn fostered motivated players.

Keywords: athlete empowerment, Sport Education model, performer constraints, athlete-centered, youth soccer

1. Introduction

Traditionally, coaches have been preoccupied with merely enhancing athletes' physical, technical, and strategic skills, and therefore they in all sports predominantly tell the athlete what to do, and the athletes' role is to listen, to absorb, and to comply. Coaches are even fired for

not controlling their athletes [1]. This coaching where all decisions are made by the coach is defined as coach-centered [2] and is a disempowering form of leadership which takes ownership and responsibility of sporting experiences away from the athletes [3]. An opposite is the athlete-centered approach to coaching which empowers athletes to gain and take ownership off the coaching processes [4].

There is a momentum in empowering athletes to take responsibility for their own learning and performances [5]. Athlete empowerment highlights athletes having autonomy for making decision with the goal to empowering athletes to make choices, develop higher levels of motivation, and learn how to solve challenges [3]. Cassidy et al. [6] concluded in an overview that an “empowered” athlete is actively stimulated to participate in directing and shaping their athletic life, including tactical strategizing and the content and delivery of training sessions. Such an approach could lead to increased commitment from athletes because they are making a greater investment of self in the process [5]. While many have put forward statements about the benefits of athlete empowerment in sport coaching, researchers ask for in-depth examination of existing practice, philosophies, and ideologies regarding the implementation [5, 7, 8].

Nevertheless, the significance of empowerment and autonomy support has also received research attention with using game-centered approaches in teaching physical education. Results have shown higher physical activity levels [9] and also an increased intrinsic motivation level [10–12] with such a teaching focus. As a summary, researchers [13, 14] highlighted the role of practitioners in providing autonomy support, structure, and involvement to athletes which means that coaches, for example, provide opportunities for choices, give athletes opportunities to take initiatives, and avoid using controlling motivational strategies.

Even though there is a current international trend [Canada, Finland, New Zealand] to use the term “athlete-centered” to describe both an approach to sport and a philosophy of coaching, there is a lack of empirical research on athlete-centered coaching. In addition, for athlete empowerment principles and frameworks to also be effectively incorporated into coaching strategies, examples of good practice are needed. Although a number of successful coaches (e.g., Erkkä Westerlund in ice hockey and Steven Hansen in rugby) have demonstrated that an empowerment approach to coaching will enable performers to succeed, the implementation of this approach would be neither straightforward nor unproblematic. Nelson et al. [8] even indicated that “coaches and coach educators choosing to use this approach would in essence be choosing to fight against the existing dominant discourse and its associated practices and expectations” (p. 526).

2. Nonlinear pedagogy and Sport Education

Based on a motor learning perspective, nonlinear pedagogy can provide a practically demonstrated and theoretically organized explanation on how to structure teaching and learning in a nontraditional way in sport and physical education [15, 16]. A fundamental role is played by manipulating key constraints affecting each individual player during learning and performance of game skills [17]. These constraints are in general classified into three diverse categories: task, environment, and performer constraints [18]. *Task constraints* refer to the goal

and rules of the activity, the learning location, instruction, and equipment used; *environment constraints* include the social-cultural and the physical environment; and the specific structural and functional characteristics of learners can be categorized as *performer constraints* [19].

Here we attempt to extend the motor learning perspective into the pedagogy of coaching and teaching and to show how a nonlinear pedagogy can provide insights on learning designs emphasizing the role of the performer. Additionally, a nonlinear pedagogy approach has been suggested to provide practitioners with key pedagogical principles to strengthen teaching [20]. Although most evidence in the literature at this moment has been from elite sports, Chow [20] noted that “it must be recognized that nonlinear pedagogy does not advocate a fixed ‘progression’ on how teaching and learning should occur” (p. 481). Williams et al. [21] also indicated that promoters of nonlinear pedagogy acknowledge that learning is not predictable and therefore cannot be illuminated through simplified instructional strategies. However, the most common way in which coaches and teachers have attempted to improve learning is typically by manipulating task constraints [22–24]. There is a paradox; on one hand, Renshaw et al. [25] stressed that “teachers will manipulate task constraints to provide new challenging games throughout the lesson” (p. 468), while others [20, 22, 26] advocate that nonlinear pedagogy is student-centric and empowering and where the focus of is on the individual learner. Thus, students are encouraged to explore and take responsibility for their own learning, and then a nonlinear pedagogy approach provides such a context where learners are motivated to learn [22, 26]. In creating such an intrinsically motivating learning environment, there is a need to a facilitate opportunities for players to feel a sense of autonomy, similarly focusing on learner-centeredness [20, 26]. Therefore, athletes need to be in a realistic learning environment where the performer constraint is modified so that they can make relevant and informed decisions based on their own, team mates’, and opponents’ capabilities [20]. In advocating for nonlinear pedagogy as empowering with a student-centric focus and meeting the call for moving away from classic coach-centered drill coaching, Siedentop’s [27] encouragement that Sport Education was designed to place the player at the center of the sporting experience might be a way to pursue.

By adopting a more democratic and inclusive pedagogy, the development of a competent, literate, and enthusiastic sportsperson is the key learning outcome in the Sport Education model [28]. These objectives of the Sport Education model relate favorably to the positive predictors of intrinsic motivation. A competent sportsperson has developed the skills and strategies to the extent that he or she can successfully participate in a game. A literate sportsperson is someone who understands and is knowledgeable about the rules, traditions, and values associated with specific sports. An enthusiastic person plays and behaves in ways that enhance, preserve, and protect the sport culture. In order to achieve these authentic and developmentally appropriate learning experiences, Sport Education has several key features [28] that distinguish it from traditional physical education but that are also easily implemented in a youth sport context. Most characteristically, units are organized as sport seasons that continue for an extended period of time. Students are assigned to teams that remain the same for the whole season. These teams are the cornerstone for the development of a sense of identification and affiliation among students. Students receive increased responsibility and take on roles additional to player, such as coach, referee, manager, trainer, statistician, and so on. The season has a competition phase, and at the end, there is a festive event. A principle of Sport Education relevant for youth soccer is that

all players get equal opportunity to participate, which is achieved using small-sided games. According to Siedentop [29], however, teachers will make individual changes to the model, and he suggested site-specific modification based on their contextual knowledge. Teacher modifying the model has also been identified in several studies [30–32].

Sport Education has received large attention in the sport pedagogy literature during the last two decades. Comprehensive reviews of literature [33–38] present empirical evidence that Sport Education is a positive experience for students and teachers in a variety of settings in physical education. From a youth sport and nonlinear pedagogy perspective, it can be concluded that Sport Education effectively promoted students' participation in the student-centered learning tasks (performer constraints), and being members in teams stimulated students' personal and social development in the form of increased trust, cooperation, and accountability. Thus, they are involved in tasks that encourage decision-making, critical thinking, and problem solving, while the teacher is guiding them to discover knowledge and to create their own understanding. Moreover, the perception of an ownership of instruction was important for the significant student enthusiasm. As a result, student verbal exchanges and dynamics were focused on content concerning practicing and playing games [39]. Although, Hastie et al. [40] noticed the support for Sport Education with regard to motivation theory, they proposed more research to study how empowerment and autonomy can be created in a Sport Education season and how students perceive it.

Despite these strong empirical and practical benefits, the Sport Education model has yet to be validated within a youth sport context. Researchers [36, 41] have proposed that there is a need to extend research on Sport Education from school physical education to sport clubs. Also Penney et al. [42] noted the lack of connection between the Sport Education model and the wider youth sport context and suggested collaboration that the Sport Education curriculum model can be extended to extracurricular and community-based youth sport contexts. Therefore, using Sport Education in a youth soccer team would be a good way to start to modify the performer constraint. In addition, Chow [20] highlighted the importance of examining and understanding the key processes involved in learning while implementing a specific approach in teaching and coaching. Thus, in this study the purpose was to examine and understand the processes involved in athlete learning through manipulating performer constraints when using the Sport Education model in Finland.

3. Methods

3.1. Participants and setting

Twenty-three players participated in this study (10–11 years of age) from an age group soccer team in mid-Finland. Most of the players had been with the same coaches and in this team for 5 years. The team consisted mainly of players from middle-income households and was representative of the local community. Even though it was a boys' team in a boys' league, two girls participated, and they were average- to high-skilled players. The coaches and the players' parents provided a signed informed consent prior to data collection. The three male

coaches had a background as soccer players, nonetheless from an elite level. They were all coaches because their child played on the team and had at least some years of coaching experience. In addition, they had taken part in a basic soccer coach education course. Neither the coaches nor the players had experienced the Sport Education model.

3.2. Design and procedure

The three coaches were at the outset invited to a presentation about the structure of Sport Education model, including research findings and theoretical underpinnings. They liked the idea with player empowerment and autonomy. The researchers and the coaches mutually planned the season based on the Sport Education model. The coaches formed the teams based on the players' skill level and on their previous attendance in practice. The coaches and we defined the responsibilities for captain, fitness and skill coaches, and referees. These typical roles in Sport Education would rotate from session to session.

In order to establish the Sport Education format in practice sessions, the first and the second authors organized the practice sessions, while the three regular coaches facilitated the sessions. Depending on matches and the availability of training facilities, they practiced three or four times a week. Overall, the team participated in an 11-session Sport Education season during 8 weeks. They also had practice matches and tournaments, and regular coach led practice sessions during this period. The structure and progression of the season followed the traditional three-phase format in Sport Education, with an introduction and skill/role development phase, a pre-season scrimmage phase, and formal competition. This structure is outlined in [43], while the current paper is part of a larger project.

At the introduction session in a classroom, the first two researchers explained to players the idea of Sport Education and the specific responsibilities related to the different roles. The captain of each team was responsible for the team conduct and the diplomas; fitness coaches were responsible for warm-ups and skill coaches for designing and implementing skill practice. Each team had to figure out a name for the team. The researcher provided instructions about generic warm-up activities, and a short basketball game in the assigned teams ended the session. Most parents attended this session. The teams' private Internet site was used to post role descriptions, team members, and a role rotation schedule.

During the pre-season phase, players were in their teams with practices led by the players [fitness or skill coach]. The regular coaches supervised and encouraged all players, while the researcher managed the structure. No formal records of game results were kept during this phase. The Sport Education season included a culminating tournament during the last practice session where all teams played against each other. All players received recognition in form of diplomas during the final award ceremony.

Each practice session began with practice in their small teams for 45–90 min sessions during the pre-season phase started with warm-up fitness routines (fitness coach), followed by a skill practice (skill coach). Each session had a specific focus for skill practice (passing, ball control, heading, turning, dribbling, faking), which was provided by the regular coaches. The practice session terminated with the four teams playing small-sided games with player referees in a

rotating schedule from other teams. The regular coaches were referees during the final session with formal competition, where the teams played a round robin tournament. Only two teams played small-sided games in the smallest practice hall, while one team officiated, and the fourth team had fitness practice in a small fitness room. The players were permanent members of the same team, although due to players' absences during some practice sessions, we combined two teams into one team. The number of players participating in practice session ranged from 11 to 20 players, with an average of 16 players. While players were absent when they were supposed to be in charge of duty roles like skill or fitness coach, other players in the same team opted voluntarily to take over the responsibility.

3.3. Model fidelity

The lack of a report on the researchers' attempts to maintain fidelity has been one concern in analyzing research on model-based teaching in physical education [44, 45]. Therefore, a seven-item checklist with benchmarks was adapted from [46] to confirm the behavioral fidelity of the model implemented. Benchmarks included in this study were season, team affiliation, student roles and responsibility, game play, formal competition, culminating event, and festivity. The first two researchers planned and implemented the model, and each practice session was planned to confirm the existence of Sport Education benchmarks in the study. The first author was a faculty member at the university and has conducted studies with Sport Education, as well as he has several years of experience of teaching Sport Education to preservice and in-service teachers and in a local high school. The second author was a graduate student and had experience of Sport Education from university courses and student teaching. Weekly meetings were held to discuss solution to various problems and to deal with other queries.

3.4. Data collection

A mixed methodology approach has been suggested to give valuable data in understanding implementation of model-based practice in teaching physical education [47, 48], and therefore we used both quantitative and qualitative data collection and analyses. The design of this study combines strengths from both research methods aiming at more robust results, which is needed when examining the key processes of learning [20]. Quantitative data were collected by a questionnaire, which consisted of five items assessing perceived autonomy. Each item was answered on a five-point Likert scale and was based on components of previously validated questionnaires in physical education or youth sport context [49, 50]. The players answered the questionnaire initially during the introductory session (16) and finally at a regular practice session (17) when the Sport Education season was completed. However, 12 players participated in both of these sessions. Qualitative data were collected through participatory and nonparticipatory observations and informal and structured interviews throughout the Sport Education season. A total of 24 formal and informal interviews were conducted, of which 19 were individual and 5 group interviews. Twenty interviews were conducted with players and four with the regular coaches. The purpose of these interviews was to capture their experiences, engagement, and perceptions of empowerment and autonomy during a Sport Education season.

All interviews were recorded and later transcribed. Each practice session was videotaped, and the camera was located in the facility so that it did not interfere with the activity. The second author acted as the primary interviewer and observer and similarly wrote and kept all observation field notes. Field notes were taken during and after each practice session and were completed after viewing the videotaped session each week with a focus on both the players' and coaches' actions and comments. The first and second authors met weekly to look at the data and discussed the interview procedures and questions.

3.5. Data analysis

For quantitative data, pre- to posttest change in perceived autonomy of the players was investigated using a paired t-test, and partial eta-square was presented as effect size. To achieve familiarization with the qualitative data, the first and second authors repeatedly read field notes and interview transcripts. Data were analyzed using an inductive constant comparative approach. First, data was reduced down into meaningful units, and then units with similar properties were collated to form broader themes. Several steps were taken during analysis to facilitate trustworthiness and credibility [51]. A researcher journal was used to keep track of the data analysis which increased the confirmability of the study. Verbatim quotes from field notes, players, coaches, and parents were retained in order to stay close to the data and for the result text. Quotes are identified by coach number or player pseudo name. The strategy of triangulation was on two levels employed to assure credibility and confirmability [52]. First, findings were confirmed through data triangulation by comparing field notes and interview data from different groups. Secondly, peer debriefing sessions between the first and second authors involved the researchers challenging each other's interpretation of the evidence.

4. Results

The Sport Education model provides player empowerment and the responsibility to influence, decide, and even select practice content themselves. With the help of the questionnaire, we have investigated players' experience of autonomy during soccer practice and whether participation in the Sport Education season has affected their perceived autonomy. The results showed no significant differences in perceived autonomy between the pre- and posttests. However, the results showed that the players to a relatively high degree experience autonomy and that the level of perceived autonomy was higher after the Sport Education season (see **Figure 1**). Although there were no significant differences in the players' perceived autonomy, the results show that there is a trend as also the effect size analysis indicates. After the Sport Education season, players have indicated higher values for four out of five of the individual items of perceived autonomy. The largest differences are that the players think they have better opportunity to say their ideas and opinions ($t [11] = -1820$, $p = .096$, partial $\eta^2 = 0.10$) and that the players consider that they have a better opportunity to choose exercises

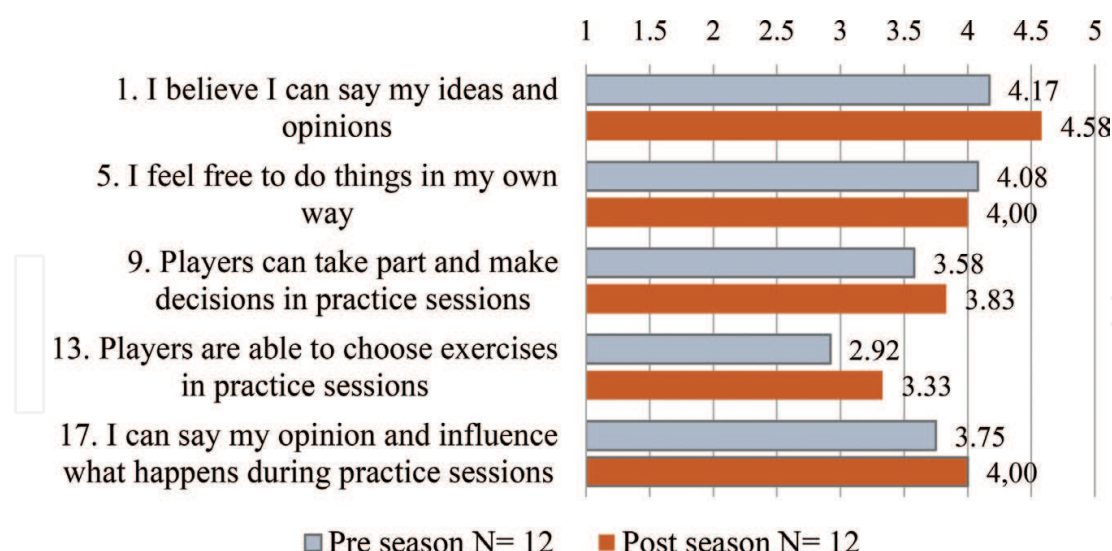


Figure 1. Players' perceived autonomy at the pre- and posttests.

in practice sessions ($t [11] = -1.332$, $p = .210$, partial $\eta^2 = 0.06$). The fact that the players do not feel more free to do things in their own way in postseason data is interesting. Although Sport Education gives more responsibility to players and allows them to decide and have an influence, they still perceive that they cannot do what they want and rather they have to follow the existing rules and listen to those who are responsible as a player coach.

Based on the qualitative data, results about empowerment and autonomy are divided into two themes. The first theme is about *being responsible*, how they perceived it, and how they were responsible during the Sport Education season. The other theme was *to choose and decide*, as it appeared from several players that they liked to select practice content themselves. This theme also includes how they planned and were prepared to coach their teammates.

4.1. Being responsible

One goal of the Sport Education model is to promote empowerment by giving them responsibility roles and allowing them to be responsible for the practice [28]. Our interviews showed that the players as well as the coaches highlighted responsibility as a central concept when describing the model. Adrian (player) described the model by "you have to be able to take responsibility." Coach 1 also noted "It is exactly this about responsibility, that it is they who are going to coach the practice sessions and make sure it works."

The players and coaches were positive and looked forward to the Sport Education season in the beginning. The players thought the model seemed interesting and that it would be fun. The coaches also liked giving players more responsibility, and they believed that the players will grow by taking responsibility and similarly show higher engagement in practice seasons. They believed that the majority of players will be able to take responsibility, but for some it will be more challenging.

Observations showed that the players were responsible and that they managed to fulfill their responsibilities. The players were serious about their roles and were responsible to plan practice

sessions properly. No player was afraid to accept roles, and they were usually volunteers to assume roles if any player was absent. During the season, players assumed during several sessions responsible roles as skill or fitness coach even if they had not prepared themselves well. Despite the fact that the players had not prepared themselves, "Theo volunteered to be fitness coach and Gabriel skill coach, it went well even though they had not planned this practice session in advance" (field note). Even the more discrete and reluctant players took their roles seriously and succeeded in this in most cases. In addition to the players taking responsibility for coach roles, they also took responsibility in their team by focusing on team tactics and how to improve the game. This to the extent that the coaches were positively surprised at how well the players succeeded in taking responsibility during the practice sessions. As Coach 2 said, "Sometimes you think they are so young, but now they are taking responsibility and you can probably give them more responsibility. They can many times manage much better than you think they can do." During the interviews after the Sport Education season, all interviewed players explained that they liked the season, and Adrian noted "I think I've improved in taking responsibility."

In addition, the players encouraged and gave feedback to each other. Especially the high-skilled players often helped the weaker players by giving them feedback and tips on practice tasks as recognized in the field note; "the high skilled player helps the low skilled to explain and organize practice tasks. [He] provides hints and motivates." What specially caught our attention during the practice sessions was the good leadership that many of the players showed in their role as skill coach; "some are innate leaders and enjoy their role as skill coach, however, everyone seems to enjoy being a coach and they are engaged" (field note).

4.2. To choose and decide

Another goal of the Sport Education model is to improve the motivation level of the players by supporting their perceived autonomy [28]. Previous research has shown that when the participants feel that they can have an influence and make decide themselves, they experience autonomy and are more motivated [35]. Adrian, Alexander, and Adam liked the Sport Education season particularly because they could choose and decide themselves. Also Gabriel pointed out that the best thing about the practice sessions was that the players themselves could be in charge for the practice sessions and small-sided games. The fact that the players were aware that they themselves can determine can be derived from Adrian "when we play soccer so we are coaches, warming up each other, or as one decides the warm up and then another coaches the skill part" and from Alexander "that we can choose what we should do and so on. And then we are in different groups and then we can come up with a name [for the team]."

Coach 2 thought it was a good thing for the players themselves to plan practice sessions, because they have to think about it and that the players may also notice that it is not always easy to plan practice sessions. Also Coach 1 highlighted that it is good for players themselves to plan and to have an influence and said "having to think and plan themselves, also means that they think when we do something. It's not just getting there and throwing in the balls and like what should we do right now."

The observations showed that the players were serious about planning and that they prepared themselves at home before the practice session. How the players prepared and how

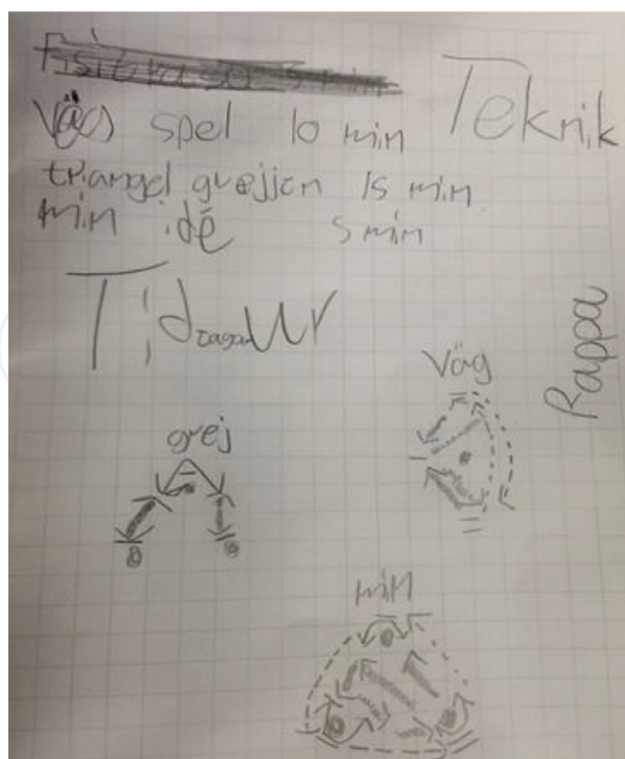


Figure 2. One players' plan for skill practice.

they went to choose the content varied. Several of the players wrote down exercises on paper (see **Figure 2**), while others only thought about how to do the session. Our field notes from practice session number eight support this: “all players had once again planned all practice tasks.”

Coach 2 mentioned that the players actually thought about the practice tasks and that many have made figures and had a lot to tell about the actual implementation of the practice tasks. The coaches thought that the players essentially got ideas for their practice tasks from the team's regular practice sessions, but they also noted that the players used other tasks. This can be seen in what Adrian said: “I skimmed through [my ideas] if passing was the theme, so I thought a bit of what you might have for tasks and then I look up from the computer.”

5. Discussion

The purpose of this study was to examine and understand the processes involved in athlete learning through manipulating performer constraints when using the Sport Education model in Finland. The results from this study provide initial evidence that young soccer players were empowered through participating in a Sport Education season as their roles shifted into a more active position, and the coach became more facilitative. Even though this study was implemented in only one soccer team, it adds to the existing literature supporting the use of Sport Education in players gaining and taking ownership of the coaching processes [4, 53]. In

addition, we also acknowledge that the nonlinear pedagogical approach was student-centered and empowered players to become active learners through the manipulation of performer constraints [22].

Our results suggest that the structure of the Sport Education model has many commonalities with an athlete-centered approach and athlete empowerment for fostering an environment where athletes are provided desired choice and joint decision-making in the coaching process. While examples of such an environment have been asked for by researchers [5, 7, 8], this study showed promising evidence of what works in a coaching context.

One of the main claims made for Sport Education is that it generates greater participant interest, involvement, and motivation during practice sessions [36, 54]. In general, the players in this study expressed that they had “fun” and enjoyed the sessions and the Sport Education season successfully brought about positive changes in players’ perceptions of autonomy. The increased autonomy in several indices is consistent with findings [55] reporting increased autonomy in physical education classes. However, an important finding is that the players indicated that they could not do whatever they wanted to, which points to an increased autonomy within certain limits. Thus, the Sport Education model appeared to increase the motivation of players and kept them on-task throughout the sessions. Therefore, these young players benefitted from being placed in soccer environments that allowed them to process information and make decisions based upon their understanding of their own, teammates’, and opponents’ actions.

Empowerment is one of the most important attributes of motivation toward physical activity, and the Sport Education model effectively showed that players were engaged and successful in responsibility tasks despite their young age. They spoke passionately about their experiences in the Sport Education unit because they could decide themselves and be responsible for their own actions. These positive affect and empowerment indices are consistent with findings [56–58] reporting increases in enthusiasm and enjoyment among students in Sport Education classes in physical education. The findings also lend support to previous motivational research on the positive effect of teachers or coaches facilitating athlete choices in physical education or youth sport contexts [13, 14]. Therefore, the pedagogical principles of Sport Education are relevant and effective in learning design where players can develop general competencies, be curious, express opinion, and pursue their interests. Furthermore, coaches thought it was favorable to give more responsibility to the players, and they were surprised how well the players succeeded and how they liked to be responsible. These results suggest that the Sport Education season implemented here facilitated perceptions of empowerment, which in turn fostered motivated players.

Chow et al. [26] also highlighted how a nonlinear pedagogical approach can provide such a learner-centered context where learners are motivated to learn through making decisions on their own to facilitate successful learning and performance. In practical terms, this means that when students engage in the Sport Education model within the smaller teams, the students feel important, are more engaged in the tasks, and gain a deeper understanding. By designing practice sessions based on the Sport Education model that meet the basic motivational needs of each player in the team, it is much more likely that players will be intrinsically motivated.

This study proposes that the structure of the Sport Education model has many commonalities with a nonlinear pedagogy approach for fostering an athlete-centered environment by modifying performer constraints [19]. As such, Siedentop et al. [28] suggested a number of factors when planning a Sport Education unit, and being on the same small team and having responsibility roles are most different from traditional coaching. Being a member of a soccer team, the main role is that of a player. In addition, each player had an additional role during practice and matches and as a member of a team. Our findings showed that players enjoyed having responsibility roles where they could try new things and make decisions. In addition, they liked having other players as coaches. These results support previous research in teaching physical education [56, 59, 60]. From a practitioner point of view, modifying performer constraint will encourage learners to access information and to allow them to set up and run their own practices and games. Thus, they are given voice, and everyone is made to feel important.

The ideas raised in this paper could also inform practitioners to more efficiently activate young athletes by using the Sport Education approach to modify performer constraints [15]. Typically, manipulating task constraints has perhaps most been used by teachers and coaches to change the instructional environment to reach learning goals [22–24]. In order to increase the likelihood of the Sport Education model being adopted in youth sport settings, more work is required by practitioners to ensure the utility of the model by providing opportunities for collaborative formulation, testing, and evaluation of experiences. For coaches with a “traditional” focus, Sport Education will require a fundamental shift in how they coach to better appreciate different learning environments. This approach means that coaches have to stand back and observe and instead act as facilitators and become less directive [20, 25, 61]. However, previous research has shown that it is challenging to shift from traditional directive to athlete-centered focus due to existing cultures [62, 63]. Similarly, it has not always been easy to let the control go and give students additional responsibilities in teaching physical education through the Sport Education model [31, 64]. Thus, it might be natural for practitioners to hold onto existing practices that seemed to work well [20]. That is, although coaches have clear individual differences in their coaching philosophy but are usually implementing one coaching approach with very little variation in practice sessions, we cannot suggest that a Sport Education approach will work for everyone in all contexts. However, based on our results, it would be a valuable effort to give it a try.

6. Conclusion

The most important conclusion that we can draw from this study is that Sport Education has great potential in terms of empowering young athletes. Although the findings of the current study add to and extend the existing Sport Education evidence base by filling some gaps in the literature, there are a few limitations to consider when examining the data. The study involved only one self-selected group of young, mainly male, players. So, we have no understanding of how female teams and athletes would experience this approach. Players’ absences were not controlled for, so some players were absent from some of the practice sessions, and they did not complete both the pre- and posttest questionnaires. However, the research designs were ecologically valid [15] and a part of their busy daily lives. Further, given the benefits of

empowerment and autonomy, we did not examine the possible effect on player skill development. Regardless, more research is needed to confirm the effectiveness of the Sport Education model in the development of the whole athlete.

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References

- [1] Scantling E, Lackey D. Coaches under pressure four decades of studies. *Journal of Physical Education, Recreation & Dance*. 2005;**76**(1):25-28
- [2] Martens R. *Successful Coaching*. 3rd ed. Champaign, IL: Human Kinetics; 2004
- [3] Kidman L. *Athlete-centred coaching: Developing inspired and inspiring people*. Innovative Print Communications: Christchurch, NZ; 2005
- [4] De Souza A, Oslin J. A player-centered approach to coaching. *Journal of Physical Education Recreation & Dance*. 2008;**79**(6):24-30
- [5] Jones R, Armour K, Potrac P. Understanding the coaching process: A framework for social analysis. *Quest*. 2002;**54**(1):34-48
- [6] Cassidy T, Jones R, Potrac P. *Understanding Sports Coaching: The Social, Cultural and Pedagogical Foundations of Coaching Practice*. Abingdon: Routledge; 2009
- [7] Jones R. Coaching redefined: An everyday pedagogical endeavor. *Sport Education and Society*. 2007;**12**(2):159-173
- [8] Nelson L, Cushion C, Potrac P, Groom R. Carl Rogers, learning and educational practice: Critical considerations and applications in sports coaching. *Sport Education and Society*. 2014;**19**(5):513-531
- [9] Smith L, Harvey S, Savory L, Fairclough S, Kozub S, Kerr C. Physical activity levels and motivational responses of boys and girls: A comparison of direct instruction and tactical games models of games teaching in physical education. *European Physical Education Review*. 2015;**21**(1):93-113
- [10] Gil-Arias A, Harvey S, Cárceles A, Práxedes A, Del Villar F. Impact of a hybrid TGfU-Sport Education unit on student motivation in physical education. *PLoS One*. 2017;**12**(6):e0179876

- [11] Harvey S, Jarrett K. A review of the game-centred approaches to teaching and coaching literature since. *Physical Education and Sport Pedagogy*. 2014;**19**(3):278-300
- [12] Jones R, Marshall S, Peters D. Can we play a game now? The intrinsic benefits of TGfU. *European Journal of Physical and Health Education*. 2010;**4**(2):57-63
- [13] Curran T, Standage M. Psychological needs and the quality of student engagement in physical education: Teachers as key facilitators. *Journal of Teaching in Physical Education*. 2017;**36**(3):262-276
- [14] Mageau GA, Vallerand RJ. The coach-athlete relationship: A motivational model. *Journal of Sports Science*. 2003;**21**(11):883-904
- [15] Chow JY, Davids K, Button C, Shuttleworth R, Renshaw I, Araújo D. The role of nonlinear pedagogy in physical education. *Review of Educational Research*. 2007;**77**(3):251-278
- [16] Davids K, Chow J, Shuttleworth R. A constraints-based framework for nonlinear pedagogy in physical education. *Journal of Physical Education New Zealand*. 2005;**38**(1):17-29
- [17] Tan CWK, Chow JY, Davids K. 'How does TGfU work?': Examining the relationship between learning design in TGfU and a nonlinear pedagogy. *Physical Education and Sport Pedagogy*. 2012;**17**(4):331-348
- [18] Newell K. Constraints on the development of coordination. In: Wade MG, Whiting HTA, editors. *Motor Development in Children: Aspects of Coordination and Control*. Boston: Martinus Nijhoff; 1986. pp. 341-360
- [19] Davids K, Bennett S, Button C. *Coordination and Control of Movement in Sport: An Ecological Approach*. Champaign, IL: Human Kinetics; 2008
- [20] Chow JY. Nonlinear learning underpinning pedagogy: Evidence, challenges, and implications. *Quest*. 2013;**65**(4):469-484
- [21] Williams S, Alder D, Bush A. A little less conversation; a little more (relational) action please. A fictional dialogue of integrating theory into coaching practice. *Sports Coaching Review*. 2015;**4**(2):115-138
- [22] Renshaw I, Chow JY, Davids K, Hammond J. A constraints-led perspective to understanding skill acquisition and game play: A basis for integration of motor learning theory and physical education praxis? *Physical Education and Sport Pedagogy*. 2010;**15**(2):117-137
- [23] Serra-Olivares J, Gonzalez-Villora S, Garcia-Lopez LM. Effects of modification of task constraints in 3-versus-3 small-sided soccer games. *South African Journal for Research in Sport, Physical Education and Recreation*. 2015;**37**(2):119-129
- [24] Serra-Olivares J, Pastor-Vicedo JC, González-Víllora S, Teoldo da Costa I. Developing talented soccer players: An analysis of socio-spatial factors as possible key constraints. *Journal of Human Kinetics*. 2016;**54**(1):227-236
- [25] Renshaw I, Araújo D, Button C, Chow JY, Davids K, Moy B. Why the constraints-led approach is not teaching games for understanding: A clarification. *Physical Education and Sport Pedagogy*. 2016;**21**(5):459-480

- [26] Chow J, Renshaw I, Button C, Davids K, Tan CW. Effective learning design for the individual: A nonlinear pedagogical approach to physical education. In: Ovens A, Hopper T, Butler J, editors. *Complexity Thinking in Physical Education: Reframing Curriculum, Pedagogy and Research*. London, England: Routledge; 2013. pp. 121-134
- [27] Siedentop D. *Sport Education: Quality PE through Positive Sport Experiences*. Human Kinetics: Champaign, IL; 1994
- [28] Siedentop D, Hastie P, van der Mars H. *Complete Guide to Sport Education*. 2nd ed. Champaign, IL: Human Kinetics; 2011
- [29] Siedentop D. Sport education A retrospective. *Journal of Teaching in Physical Education*. 2002;**21**(4):409-418
- [30] Alexander K, Luckman J. Australian teachers' perceptions and uses of the Sport Education curriculum model. *European Physical Education Review*. 2001;**7**(3):243-267
- [31] Curtner-Smith M, Hastie P, Kinchin G. Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education. *Sport Education and Society*. 2008;**13**(1):97-117
- [32] Romar J, Henriksson J, Ketomäki K, Hastie P. Teachers' learning experiences with the Sport Education model in physical education. *Scandinavian Sport Studies Forum*. 2016;**7**:1-26
- [33] Araujo R, Mesquita I, Hastie PA. Review of the status of learning in research on sport education: Future research and practice. *Journal of Sports Science & Medicine*. 2014;**13**(4):846-858
- [34] Hastie P. The nature and purpose of Sport Education as an educational experience. In: Hastie P, editor. *Sport Education: International Perspectives*. New York: Routledge; 2012. pp. 92-104
- [35] Hastie P, Martínez D, Calderón A. A review of research on Sport Education: 2004 to the present. *Physical Education and Sport Pedagogy*. 2011;**16**(2):103-132
- [36] Hastie PA, Wallhead T. Models-based practice in physical education: The case for Sport Education. *Journal of Teaching in Physical Education*. 2016;**35**(4):390-399
- [37] Kinchin G. Sport education: A view of the research. In: Kirk D, Macdonald D, O'Sullivan M, editors. *The Handbook of Physical Education*. London: Sage; 2006. pp. 596-609
- [38] Wallhead T, O'Sullivan M. Sport Education: Physical education for the new millennium? *Physical Education and Sport Pedagogy*. 2005;**10**(3):181-210
- [39] Brock S, Hastie P. Students' verbal exchanges and dynamics during Sport Education. *European Physical Education Review*. 2016;**23**(3):354-365
- [40] Hastie P, Sinelnikov O, Wallhead T, Layne T. Perceived and actual motivational climate of a mastery-involving sport education season. *European Physical Education Review*. 2014;**20**(2):215-228

- [41] Harvey S, Kirk D, O'Donovan T. Sport education as a pedagogical application for ethical development in physical education and youth sport. *Sport Education and Society*. 2014;**19**(1):41-62
- [42] Penney D, Clarke G, Kinchin G. Developing physical education as a 'connective specialism': Is sport education the answer? *Sport, Education and Society*. 2002;**7**(1):55-64
- [43] Romar J, Sarén J, Hastie P. Athlete-centred coaching using the Sport Education model in youth soccer. *Journal of Physical Education and Sport*. 2016;**16**(2):380-391
- [44] Casey A, Goodyear VA, Dyson BP. Model fidelity and students' responses to an authenticated unit of cooperative learning. *Journal of Teaching in Physical Education*. 2015;**34**(4):642-660
- [45] Hastie PA, Casey A. Fidelity in models-based practice research in sport pedagogy: A guide for future investigations. *Journal of Teaching in Physical Education*. 2014;**33**(3):422-431
- [46] Sinelnikov O. Sport education for teachers: Professional development when introducing a novel curriculum model. *European Physical Education Review*. 2009;**15**(1):91-114
- [47] Layne T, Hastie P. A task analysis of a Sport Education physical education season for fourth grade students. *Physical Education and Sport Pedagogy*. 2015;**20**(3):314-328
- [48] Li W, Wright PM, Rukavina PB, Pickering M. Measuring students' perceptions of personal and social responsibility and the relationship to intrinsic motivation in urban physical education. *Journal of Teaching in Physical Education*. 2008;**27**(2):167-178
- [49] Deci EL, Ryan RM, Gagné M, Leone DR, Usunov J, Kornazheva BP. Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*. 2001;**27**(8):930-942
- [50] Soini M. The relationship of motivational climate to physical activity intensity and enjoyment within ninth grade pupils in school physical education lessons. In: *Studies in Sport, Physical Education and Health 120* (In Finnish: English abstract). Jyväskylä: University of Jyväskylä; 2006
- [51] Miles MB, Huberman AM, Saldana J. *Qualitative Data Analysis: A Method Sourcebook*. Thousand Oaks, CA: Sage; 2014
- [52] Patton M. *Qualitative Research & Evaluation Methods*. 3rd ed. Thousand Oaks, CA: Sage; 2002
- [53] Kidman L, Lombardo B, editors. *Athlete-centred Coaching: Developing Decision Makers*. 2nd ed. Worcester, England: IPC printe Resources; 2010
- [54] Perlman D, Caputi P. Examining the influence of Sport Education on the precursors of a motivation. *European Physical Education Review*. 2017;**23**(2):212-222

- [55] Wallhead TL, Ntoumanis N. Effects of a sport education intervention on students' motivational responses in physical education. *Journal of Teaching in Physical Education*. 2004;**23**(1):4-18
- [56] Browne T, Carlson T, Hastie P. A comparison of rugby seasons presented in traditional and Sport Education formats. *European Physical Education Review*. 2004;**10**(4):199-214
- [57] Perlman D, Goc KG. Self-determined perspective of the Sport Education model. *Physical Education and Sport Pedagogy*. 2010;**15**(4):401-408
- [58] Cuevas R, García-López LM, Serra-Olivares J. Sport Education model and self-determination theory: An intervention in secondary school children. *Kineziologija*. 2016;**48**(1):30-38
- [59] Carlson T, Hastie P. The student-social system within sport education. *Journal of Teaching in Physical Education*. 1997;**16**(2):176-195
- [60] Hastie P, Sinelnikov O. Russian students' participation in and perceptions of a season of Sport Education. *European Physical Education Review*. 2006;**12**(2):131-150
- [61] Cushion C. Applying game centered approaches in coaching: A critical analysis of the 'dilemmas of practice' impacting change. *Sports Coaching Review*. 2013;**2**(1):61-76
- [62] Reid P, Harvey S. We're delivering Game Sense ... aren't we? *Sports Coaching Review*. 2014;**3**(1):80-92
- [63] Thomas G, Morgan K, Mesquita I. Examining the implementation of a Teaching Games for Understanding approach in junior rugby using a reflective practice design. *Sports Coaching Review*. 2013;**2**(1):49-60
- [64] Ko B, Wallhead T, Ward P. Professional development workshops: What do teachers learn and use? *Journal of Teaching in Physical Education*. 2006;**25**(4):397-412

