

Nadeau, Luc; Martel, Denis

**Département d'éducation physique, Université Laval
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Effects of a Learning Game Through Understanding Strategy on Tactical Skills and Performance in Team Sports

Project Summary

Teaching and learning tactical skills in team sport is essential to improve performances (Grehaigne & Godbout, 2014). Player's understanding of the game is a good indication of the learning of these skills (Memmert & Perl, 2005). Unfortunately, many coaches seem to use traditional approaches mainly focused on teaching technical skills and flow drills with their players. The two purposes of this study were: First, analyze coach's exercises to understand what proportion of real tactical skills is used with soccer and ice hockey competitive players. Second, assist coaches using a learning game through understanding approach (LGtU) and assess the effect on player's knowledge and skills.

The first phase consisted at analyzing 63 training sessions (Soccer=34 and hockey = 29) of 17 different teams (soccer=10, hockey = 7) to classify all type of exercises done by players. Results showed that 4% of the 255 exercises in hockey were specific to tactical skills compared to 55% of the 166 exercises in soccer. Few of those met the characteristics of tactical exercises: liberty of decision of players, presence of opponents during the exercise, small sided game (SSG), game-like stake and double-effect games (offensive and defensive at the same time).

The second phase was to train and assist coaches using a LGtU approach with their teams. Three coaches (soccer=2, hockey=1) were trained and supervised (5 sessions of 60 minutes) during one competitive season. Coaches were asked to use several tools during training sessions and after regular matches to further player's comprehension and reflexive thinking of the game: 1) SSG with a significant game-like stake for players; 2) debates of idea (DI) between players; 3) critical incident technique after games; 4) questioning athletes instead of giving direct feedbacks and 5) measuring player's performance. Athletes reacted differently to those tools, especially to the significant stake during SSG. Coaches were all pleased with the LGtU approach but found it difficult to establish with their team. The culture and tradition of the sport as well as the implication of the coach in the approach were significant in this study. The LGtU approach is a different way to coach team sport athletes and seems more coherent with the learning of tactical skills.

Research Methods

Phase 1:

Observatory research: Filming practice sessions with a GoPro camera worn by the coach and a second camera placed in the stand to have a wider view of the players during the exercises. GoPro camera was also recording the voice of the coach and some players. Practice video were then

divided by exercise who were classified by two research assistants into categories (technique, tactic, physic, strategic or combined exercises)

Phase 2:

Collaborative action research: training and supervising coaches on the LGtU approach. Coaches and researcher perceptions were collected by video during five meetings during the season in three case study.

Athlete's perceptions [soccer (n=36) and ice hockey (n=18)] of game situations were also collected during the season using a critical incident technique (CIT). Players were asked by their coaches to describe game situations [Very Effective (TE) and/or Less effective (NE) tactical situation] they have experienced during games. Players were free to describe and explain in detail the reasons why they considered them significant situations.

Research Results

Phase 1:

Analysis of 63 training sessions identified 421 different exercises (n = 255 in hockey and n = 166 in football). Of which, 102 (24%) were explicitly aimed at developing players' tactical skills. In hockey, only 11 exercises were tactical (4%), compared to 91 (55%) in soccer. Soccer coaches used more small sided games (56%), while ice hockey coaches seem to prefer single-player or few-player exercises (1 vs 0, 2 vs 0, 2 vs 1) (63%). Overall, few exercises had a game-like stake or were focused on offensive and defensive at the same time as it is in a regular game. Findings confirmed that coaches used mainly a traditional approach with their players.

Phase 2:

Analysis of the second phase is still in progress.

Coaches: Analysis revealed that using a LGtU approach is well perceived by coaches and players. Attitude of the coach and abilities to give more responsibilities to players is crucial to the success of the approach.

Athletes: CIT analysis reported more E (n=289) than NE (n=117) tactical situations. Majority of situations referred to individual and offensive tactical situations, in which attacking the opposite goal (n= 184) and progressing to the opposite goal (n=239) were most cited by players. DI among players was an interesting way to motivate them and give them more responsibility about team success. The reflection process associated with those tools can help players and coaches to better understand the game in a LGtU approach.

Policy and Program Implications

This study showed that many coaches continue using traditional approach based on the development of technical skills with their team sport athletes despite the existence of more appropriate approaches centred on tactical skills like LGtU. The National Coaching Certification Program, as well as the academia or university programs in sports or physical education should teach and promote those different approaches to help players and coaches to better understand the game. We consider that this will lead to better athletes but also more motivated players throughout their career.

Next Steps

Team sport coaches at any competitive level should use LGtU approach or other methods based on player's comprehension. Players have to be more reflexive to better understand the game, to anticipate opponent and teammate actions and to constantly adjust their actions to the game situation. By giving them more responsibility over the success of the team, their motivation should increase because of a better implication. Our hypothesis is that this should lead to enhanced player's participation, longer and more pleasant sport career.

Thus, different questions emerge from this study: 1) Does a career long use of a LGtU approach could lead to a better athlete's development compared to traditional approach? 2) Could this kind of approaches lead to more motivated athletes and less drop out of their sport career? 3) Why coaches and or athletes are still resistant to use those approaches with their players. 4) Would these approaches will really lead to better performance?

Knowledge Translation

So far, three conferences have been given to coaches in sport federation (Hockey Québec) and Québec regional sport association (Association de soccer Chaudière Ouest and Club Caravelles de Ste-Foy). The findings of this study have also been included in the training curriculum of the Baccalauréat en Intervention sportive de l'Université Laval.

Four scientific communication have been done in French for international association bi-annual meeting (Association sur la recherche en intervention sportive – ARIS) and two in English for another international association (AIESEP).

Three scientific papers are sent to editors or will be send in the current year

- Nadeau, L., Martel, D., Poulin-Beaulieu, I., & Couture-Légaré, J. (2019). L'utilisation de la technique des incidents critiques pour favoriser la réflexion de joueurs en sports collectifs. *eJERIEPS* (accepted).
 - Poulin-Beaulieu, I., Martel, D., Nadeau, L., & Couture-Légaré, J. (2019). Catégorisation de situations d'apprentissage et de perfectionnement offertes à des athlètes de football et de hockey sur glace. *Actes de congrès ARIS*.
 - Nadeau, L., Martel, D., Poulin-Beaulieu, I., & Légaré-Couture, J. (en préparation). Une stratégie d'apprentissage fondée sur la compréhension du jeu au soccer et au hockey sur glace compétitif: trois études de cas.
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