The Basic Elements for Decision Making in Ballgames

NA-17

Osamu Suzuki , Ph.D.: Nihon University, JPN
Takaya Kitazawa, M.A. : Nihon University, JPN
Ryosuke Tsuchida, Ph.D. : Joetsu University of Education, JPN
Katsuhiro Hirose, M.A. : Kagoshima University, JPN
Naoki Suzuki, Ph.D. : Tokyo Gakugei University, JPN
Daisuke Matsumoto, Ph.D. : Nishikyushu University, JPN

Expanding a series of our studies (AAHPERD National Convention 2008, 2009, 2010, and 2011), we present a new and useful viewpoint for PE teachers based on the game structure theory developed in Japan.

INTRODUCTION

The essential element of ballgames is a competition for a future unknown result (objective of competition). In such a situation, tasks of competition in which players engage to directly achieve the objective distinctly arise. Clarifying the structure of the games with the viewpoint from players, we have argued for a theoretical framework to grasp the relations among the objective of competition, the task of competitions, and the method selected for task-solving. A series of our consideration lead the deeper understanding about relation between various activities of learners (extension of concept) and learned contents (intension of concept) through organizing the tasks and the processes of task-solving.

THE FANDAMENTAL STRUCTURE

Although there are many kinds of ballgames, all of them include one of the two distinct objectives:

1. Ball-progressing to the objective point (ex. goals, areas, holes, targets, opponent court...)
2. Player-progressing to the objective point (ex. home-base...).

The ball or player progression is accomplished either through the conflicts between offense and defense or by the personal activities of an individual player. Concretely speaking, in the former, offense attempts breakthrough "Defensive Threshold" constructed by defense (see Fig.1) , or in the latter, the player attempts to manipulate the ball skillfully.

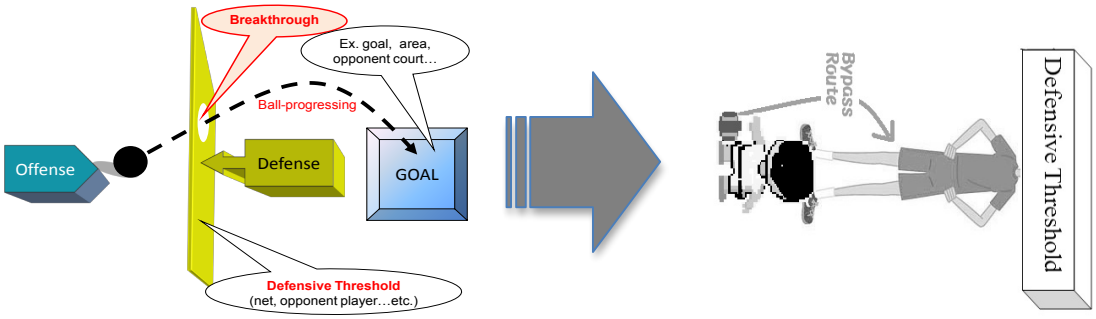

Fig. 1 Breakthrough

LAYERED DEFENSIVE THRESHOLD

The defensive threshold is differentiated between the "Main Defensive Threshold" and its assistant(s)="Sub", so that they constitute the layered structure (see Fig.2). For example, in tennis, volleyball, rugby football, etc., defensive thresholds are layered unfolding backward based on the main defensive threshold. On the other hand, in basketball, soccer, handball, etc., the thresholds are layered unfolding forward.

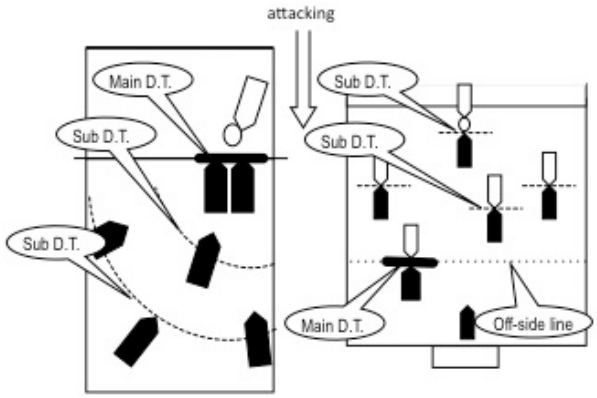

Fig. 2 Layered Structure

PROCESS OF TASK-SOLVING

Considering the circumstances mentioned above, the process of task-solving can be classified into four types (single tasks×2, combined tasks×2):

1. Target-shooting
2. Breakthrough
3. Breakthrough + Target-shooting(*1)
4. Breakthrough + Base-advance(*2)

Each type of task-solving represents a fundamental learning aspect of ballgames.

NOTE

(*1) *Offense invade a shootable area (primary game), then shoot (secondary game).*

(*2) *A batter send (hit) the ball to the fairground (primary game: We believe Ichiro is a genius in this game!) in order to start base running, then a runner attempts to reach the next base (secondary game).*

CONFRONTATION

Especially in the process of breakthrough task-solving, players select the specific application of ball manipulation as follows:

1. "pass" the ball toward the objective point (goal or the other player of own team), or
2. "carry" the ball by himself/herself toward the objective point.

Based on the layered structure of defensive threshold and the selected method to breakthrough the structure, three phases of "confrontation" between offense and defense can be distinguished as followings (see Fig.3).

1. Separation
2. Cross-border
3. Confusion

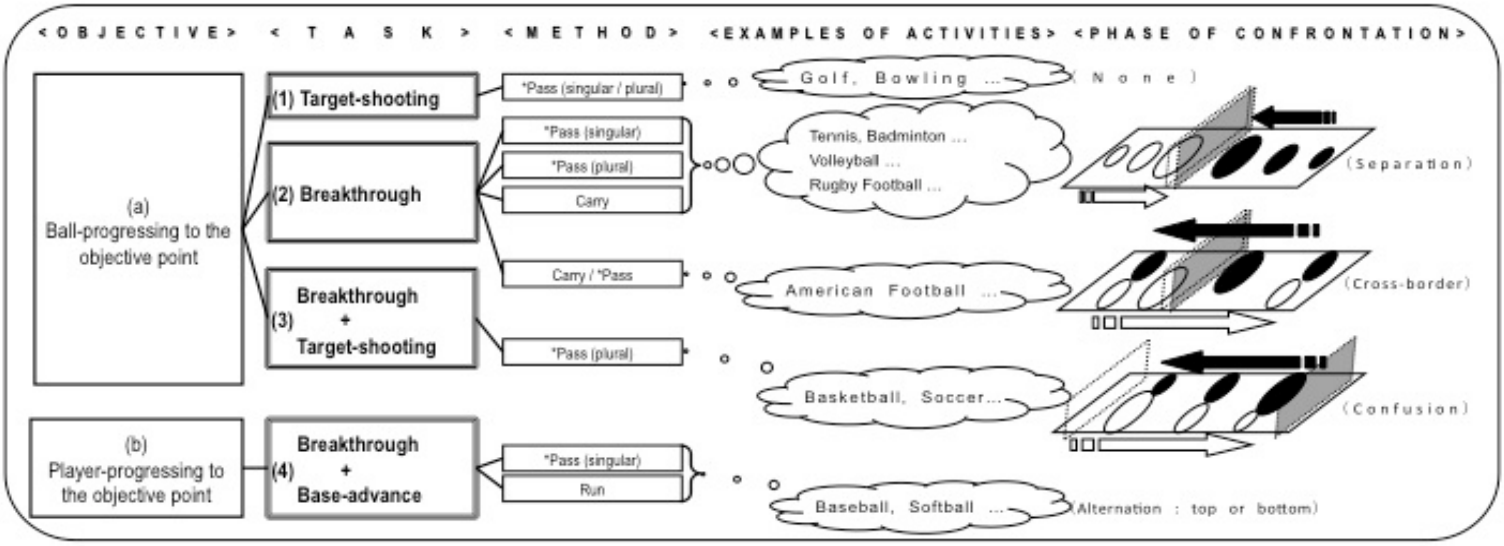

Fig. 3 Task-Solving Process in Ballgames

INTENTION

In any case of breakthrough task-solving, players (offense) face the dual function:

1. not to lose the ball (ball-possession), and
2. to advance the ball in the direction of the goal (ball-progression).

Then viewing in the light of social constructivism, we can recognize that the phase of confrontation changes according to which one (possession or progression) the offense give priority (see Fig.4). For example, you can easily understand it by comparing the novices' soccer game and the experts' one.

Therefore assessing how these two antagonistic elements are distributed, we can grasp the intention of each offensive behavior. This idea will help teachers improving PE lesson where many ballgames are handled.

These findings provide a new perspective for ballgame instructions, which enables the learners to construct the processes as meaningful experience, not just reproducing solutions for the tasks of the competition. That is, the game structure theory promotes curricular conversion from "sports event priority" to "learning contents priority" in teaching ballgames.

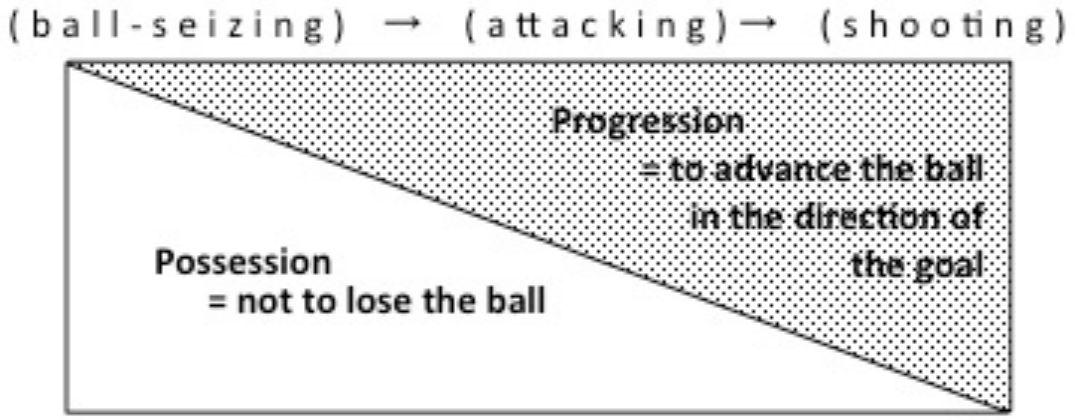

Fig. 4 Intention of Offensive Behavior

E-mail to…

Osamu Suzuki : Nihon Univ.
pesuzuki@chs.nihon-u.ac.jp

Katsuhiro Hirose : Kagoshima Univ.
hirose@edu.kagoshima-u.ac.jp

Takaya Kitazawa : Nihon Univ.
kitazawa@chs.nihon-u.ac.jp

Naoki Suzuki : Tokyo Gakugei Univ.
nsuzuki@u-gakugei.ac.jp

Ryosuke Tsuchida : Joetsu Univ. of Education
tsuchida@juen.ac.jp

Daisuke Matsumoto : Nishikyushu Univ.
matsumotoda@nisikyu-u.ac.jp