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Abstract.- Teaching games is an essential objective of the physical education curriculum. For those working with students in the gym it is a recurring challenge. When looking at the present didactic concepts concerning the teaching of games, it becomes obvious that there is a certain tendency to focus on the educational potential of games and play rather than their physical potential (Bietz 1998, Loibl 2001). In the following article I am going to explain what the educational potential and its benefits in games and play are and how it can be used. The genetic teaching and learning method will be introduced and applied in a motion workshop, in this case a game workshop. As an example the development of target games characterized by shooting and preventing goals, which were created in a game workshop by university students, will be described.

Resumen.- Uno de los objetivos clave del currículum de Educación Física es la enseñanza de los juegos. Con lo cual es una forma de trabajo habitual en los gimnasios. Si analizamos las actuales ideas didácticas relacionadas con la enseñanza de los juegos, parece obvio que hay cierta tendencia a resaltar más su potencial educativo que lo motriz (Bietz 1998, Loibl 2001). En el siguiente artículo explico cómo puede ser usado el potencial educativo y lo beneficios de los juegos. El método generador de enseñanza y aprendizaje será introducido y puesto en marcha en un taller de movimiento, en concreto en un taller de juegos. Describo, a modo de ejemplo, el desarrollo de un tipo de juegos caracterizados por el intento de marcar y evitar goles que crearán en un taller de juegos un grupo de estudiantes universitarios.

Key words.- Physical Education; Game workshop; Genetic method.

Palabras clave.- Educación Física; taller de juegos; Método generador.

1.- Playing Games: “Experimenting with options”

Due to their complexity and difficulty as well as their various uses the terms “game” and “play” cannot be explained by giving only one definition. Instead, it will be more helpful to classify them by determining features which are typical of human play. (Warwitz & Rudolf 2004). In the following the use of the term play always includes games that contain any form of physical activities such as games involving balls or games of hide and seek.

1.1.- Features

Considering these assumptions Warwitz & Rudolf (2004) have listed the following characteristics of play

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- playing voluntarily

Those who play want to do it by their own choice and without being pressured by others. Playing means experimental doings. If playing is instructed this characteristic will get lost.

- tension

The end of a game is uncertain, open and surprising. But its course can be influenced by skills. These facts create tension among the players. Success is the goal but failure is possible, too.

- off the routine

Playing is opposite to daily work and daily demands. It does not serve to fulfil human needs. Playing is said to have a compensatory function.

- carefree

Humans play just for the sake of playing and not to fulfil any expectations or gain any profit from it. The experiencing of joy and the urge to move are the basic motives.

- giving it a sense

Humans play because it stirs happy and enriching emotions. Positive feelings might occur.

- symbolic acts

In play situations can be turned into imaginations. Objects and activities can receive a symbolic meaning. A climbing rope in the gym can become a liana in a tropical forest and a boy playing soccer might identify with his soccer idol.

- rules

Games are based on a game idea as well as its underlying rules and agreements. The latter structure the game, guarantee equal chances and determine success. If a game is to be performed successfully its rules must be followed by all the participating players.

- repetition

In general, games are based on continuance. Players attempt to repeat a game soon and as often as possible.

When talking of play not all the features listed above need to be fulfilled. Sometimes only a few characteristics will be sufficient to determine actions as play or games.

1.2.- Educational Function of games and playing

When looking at the characteristics of games and play it becomes obvious that there are manifold educational functions to be considered. Warwitz und Rudolf say that at present in pedagogy play is seen as an

inexhaustible reservoir of possibilities to assist children in developing their “motor, cognitive, emotional and social abilities and skills” (2004). By being physically active in games children gain experience concerning motor skills such as running, jumping, throwing, catching etc. They must observe, perceive and react. All of these demand coordination. They also experience their body, and find out about the success of their own doings as well as their personal limitations. Emotions can be enjoyed in case of success and have to be dealt with in case of failure. The handling of various game equipment expands the knowledge concerning materials. Mental processes are set in motion during different game situations as upcoming problems have to be solved: examples are understanding the idea of the game, recognizing rules and following them or thinking up new game variants. Whenever several partners play together they have to make arrangements, decide on rules and obey them. Thus children gain the social skill to be aware of the set of rules that has to be followed when interacting with others.

2.- Learning to play

A major objective of physical education teaching is to enable children to determine their own play at any given time. This is to be achieved by encouraging them to modify the given rules as required in every single situation that comes up during play (Loibl 2001). As a result the children learn to take responsibility for their decisions and actions in play. Independent and mutual agreements are necessary concerning basic rules such as the use of materials, boundaries of playing area, duration of game and number of players as well as a code of conduct, which includes the promise to obey the rules that were agreed on. Strategic rules develop during play.

2.1.- Concepts

Traditional teaching methods follow the concept of instruction and practice. Technical and tactical skills are introduced and performed in a sequence of exercises. They are considered a precondition for playing a game. Such methods will not be very helpful to realize the objectives determined above. The disadvantages of these methods are that students on the one hand will only imitate rule and movement patterns provided by the teacher and on the other hand not recognize the interrelation between the game and its set of rules. This means that the children miss the chance to play a creative and responsible part in their own learning process. This is also true for other methodical concepts in which the successive games lead to the target game but are exclusively instructed by the teacher (Bietz 1998, Loibl 2001).

The aim to develop a general ability of playing ball, which especially includes social and cognitive processes and considers rules as alterable and “tactics and techniques as a means to solve a task in play in context with the game idea “ (Loibl 2001, 19), demands a concept that follows a more genetic form of developing a game. When following Wagenschein (1991) genetic teaching and learning is characterized by three principles:

- Learners work on a problem and develop individual solutions (genetic)
- Teachers support and guide the learners' individual processes of problem-solving by suggesting ideas (Socratic)
- Learning takes place through selected examples by which the learners gain fundamental insights (exemplary)

The starting point for a genetically structured learning process is always a phenomenon, which arouses interest in the learners and provokes their individual questions and problems (illustration 1). Thus the learners make the problem their own. The basic idea of genetic teaching and learning therefore is that the learners do not present the reconstruction or reproduction of a given solution. Instead, they individually define problems and search for solutions. This procedure ensures that there might be different solutions found by different learners concerning one particular problem.

The sequence of a genetic course can be shown in a schematic diagram as follows:

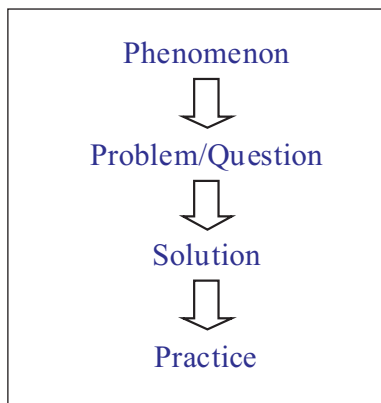


Fig. 1: Schematic diagram of genetic teaching and learning

When applying the features and principles of genetic teaching and learning to the teaching of team ball games such as soccer, basketball, hockey etc it first of all means the construction and development of the original game by referring to its basic idea. Rules are always considered as alterable. The phenomenon is the actual play which is initiated through the idea of the game. The players constantly have to identify game situations and act appropriately. The ball as necessary equipment must be controlled. Possible problems might be that in heterogeneous teams the participation of the different team members might be unbalanced and consequently unsatisfying. This situation must be discussed and the problem solved. This may be achieved by changing rules and thus will influence the course of the game. The modified game situations must be reviewed and if necessary rearranged again to ensure that the needs of all the players are recognized. This process constitutes a constant change between physical activity and its reflection and planning. It becomes obvious that there is no certain order in which the problems might appear and have to be solved. The procedure as described here can be transferred to the teaching of any ball game. In this context the exemplary principle of genetic teaching and learning becomes clear, as well (Wichmann 2005).

2.2.- Motion Workshop - Game Workshop

The idea of genetic teaching and learning can also be found in the didactic learning workshop. The nature of workshop learning lies in the idea of gaining experience by being pedagogically supported in one's thoughts and actions and thus learn something that is related to one's own environment (Knauf 2001). One is reminded of the motto "learning by doing", supposedly said by the American educationalist John Dewey (Knauf 2001). Group work is prominent in workshop learning. Learners face problems and have to solve them independently. The teacher accompanies and moderates the learning and working process. He provides equipment and materials, offers suggestions, inspires the learners and supports them in their individual work.

Workshop learning can also be used when being confronted with topics concerning physical activity. In a workshop dealing with physical activities learners define their own intentions concerning movement and explore respective phenomena by personally trying out what they have developed. They invent and try out their building arrangements, which have sprung from their own plans of moving about. The principle that is followed is: Building and Moving - Thinking and Acting.

If the intentions of the learners relate to play the workshop dealing with physical activities in general can easily be changed to a game workshop in particular.

3.- Products of the game workshop

During a game workshop physical education students were asked to develop a game, characterized by the idea of shooting and preventing goals. They were to split up in four groups and create, try out and present these games by using different ready-made equipment and materials (illustrations 2, 3). A further condition was to ensure that they were suitable for being used in the gym.

Tasks:

1. In your group develop a game using the given equipment (idea and basic rules)
2. Write down idea and rules.
3. Try out the game. Change idea and rules if necessary to play successfully.
4. Present the game.

Fig. 2: Tasks of the game shop



Fig. 3a:
Equipment for Pocket-Bat-Ball



Fig. 3b:
Equipment for Mop-Ball



Fig. 3c:
Equipment for Frying-Pan-Ball



Fig. 3d:
Equipment for Beak-Hockey



Fig. 4: All equipment of the game workshop

As instructed the following games were developed in the game workshop (illustration 4)

Group 1: Pocket-Bat-Ball

Equipment (Fig. 3a)	<ul style="list-style-type: none"> - 6 bats with a hole in the centre, a pouch (made of cloth) is attached to the frame - 2 goal walls - 1 tennis ball
Idea of the game	<p>A team consists of 3 members. By using a pouch-bat a tennis ball is thrown, caught and intercepted in such a way that goals can be scored or prevented depending which team is in possession of the ball; possession of ball is open</p>

Basic rules	<ul style="list-style-type: none"> - Team of 3 - Court: gym - Out of bounds: free throw zone below the basketball hoop - If the out of bounds area is entered the opposing team receives the ball - If the ball is out of bounds the opposing team receives the ball - When carrying the ball in the pouch the player can only take three steps - The centre line must be crossed before scoring a goal - No body contact at all times - After scoring a goal the game is resumed at the centre line - Scoring: Hitting any spot of the goal wall=1 point Large hole = 2 points Middle hole = 3 points Small hole = 4 points
Strategic rules	<ul style="list-style-type: none"> - Regular passing of the ball across short distances - Attackers should be open - Block passes - Use chance of substitute play - Use bounce passes

Group 2: Mop Ball

Fig. 3 b: Equipment	<ul style="list-style-type: none"> - 8 wooden mops - 1 wooden red puck - 1 wooden blue puck - 2 goals, one has a red target area and one a blue one
Idea of game	<p>By using a mop the attacking team tries to score a goal. The defending team tries to prevent this and to get possession of the puck.</p>

Basic rules	<ul style="list-style-type: none"> - Teams of 4 - Court: gym - 2 pucks of different colours are used - it is a violation to play the puck with the back of the mop or foot - The centre line must be crossed before scoring a goal - No body contact - No touching of the opposing mops - After scoring a goal the game is resumed at the centre line - Scoring: The red puck is shot into the red goal = 2 points The blue puck is shot into the blue goal = 1 point Scoring with the blue puck accordingly
Strategic rules	<ul style="list-style-type: none"> - Regular passing of the ball across short distances - Attackers should be open - One-on-one defence - Outnumbering of the opposing team

Group 3: Frying-Pan-Ball

Equipment (Fig. 3c)	<ul style="list-style-type: none"> - 8 wooden bats - 1 gymnastic ball - 2 mats
Idea of game	<p>All players carry a bat. A member of the attacking team has to pass the only ball to another team member who is positioned in an enclosed zone. The defending team tries to prevent this and to get possession of the ball.</p>
Basic rules	<ul style="list-style-type: none"> - Teams of 4 - Basketball court - The ball must be balanced on the bat. In order to catch the ball the free hand may be used for a short time in order to safeguard the ball - Passes only by bat

	<ul style="list-style-type: none"> - As soon as the hand has touched the ball the player must not move anymore - The ball may be taken off the opposing bat using the player's hand - Points are scored when the ball is played to a team member who is standing on a mat, but must be passed and caught using the bat - The mat is positioned in the free zone area of the basketball court which is also out of bounds for the other players - After scoring a goal the game is resumed at the centre line
Strategic rules	<ul style="list-style-type: none"> - Regular passing of the ball across short distances - Attackers should be open - Defence of the out of bounds area - Outnumbering of the opposing team - Quick change from attack to defence and back

Group 4: Beak-Hockey

Equipment (Fig. 3d)	<ul style="list-style-type: none"> - 8 wooden sticks with coloured marking - 1 wooden puck - 2 wooden goals divided in 3 parts
Idea of game	<p>2 teams of 3 use sticks resembling beaks at their end and a puck in order to score points. Points are scored by transporting the puck in to the goal of the opposing team. Possession of puck is open. The aim of each team is to score as well as prevent goals.</p>
Basic rules	<ul style="list-style-type: none"> - Teams of 3 - No assigned goal keeper - Court: gym - Goals are divided into three parts Outer area = 1 point Inner area = 3 points - The centre line must be crossed

	<p>before scoring a goal</p> <ul style="list-style-type: none"> - No other than the goal keeper is allowed inside the goal area (2m wide, directly in front of the goal) - After scoring a goal the game is resumed at the centre line - The puck must be on the ground at all times - The puck must not be touched by foot
Strategic rules	<ul style="list-style-type: none"> - The player furthest back is the goal keeper. This position can be changed indefinitely - Regular use of substitute players - Safe passing of the ball across short distances - Attackers should be open - Defence of the goal area - Outnumbering of the opposing team - Quick change from attack to defence and back

5.- Summary

After explaining the features of playing and emphasizing the importance of playing I have outlined a way showing how the potential of play and playing games can be used in a educationally valuable sense. The focus lay on physical games and in particular those that aimed at the shooting and preventing of goals. It was pointed out that the genetic form of teaching games can be applied to using workshop learning.

Thus four different types of games all characterized by the idea of shooting and preventing goals were developed and presented. The university students involved were given the opportunity to exemplary get to know a teaching and learning method, which will help children to learn independently.

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