

DODGING, FLEEING AND CHASING

When preparing students for invasion or tagging games, it is important to teach **skill** (how the body should move), **movement** (how the body can move), and **activity** (where the body should move) **concepts**. Skill concepts refer to the fundamental and specialized movement skills (open step, drop step, reverse pivot and cross over step) skills. Movement concepts address students' awareness of effort, space and relationships. Movement concepts reinforce student's ability to adapt to the dynamic environment in which they need to be able to adjust how the body moves (effort), where the body can move (space), and with what or whom they can move (relationships). Activity concepts address the tactical problems that students will face within the dynamic environment and allow for students to engage in the games successfully.

Skill Concepts (How the body should move)

Dodging is a skill that is used to change pathways to gain a positional advantage over another individual. Through this change in direction, the offensive person is trying to create a greater amount of separation/cushion (space awareness- ranges) between him/her and the defense. Dodging skills (specialized movement skills) require one to decelerate, accelerate, balance and combine two or more movement patterns into coordinated movement.

There are four different dodging skills that provide a foundation from which students are able to change direction:

1. **Open Step** is a lateral or diagonal step in which a student gains ground or a lateral step in which he/she does not gain or lose ground. During the preparation phase of this skill (deceleration into a single leg stabilization), it is important to keep the shoulders square to the original direction of travel. As the student initiates the change in direction with the step, the hips will open up and the shoulders will now face the intended direction of travel. The force application phase of this skill is a directional lunge. This is an effective skill when trying to cover a short distance.
2. **Drop Step** is any movement in a backward direction in which you are giving up ground to increase the amount of separation between you and the defender. The preparation phase of this skill (deceleration into a two foot athletic stance) allows the student perform a directional lunge to move away in a backward direction.
3. **Reverse Pivot** is a skill that is used when the defender has over pursued the student or when the student cannot use an open step because he/she needs to pivot on the inside foot. The reverse pivot is often used to cut back across the grain (flow of movement on the playing field). When using the reverse pivot, the student cannot be running at the defender (shoulders cannot be square to the defender), there must be an angle of pursuit to be able to effectively execute the skill.
4. **Cross Over Step** is a skill that is primarily used when a person is stationary and has a limited number of angles or directions in which they can move and results in a full commitment to the direction of travel. The crossing over motion is actually the second step that you take unless you are participating in an activity where you are limited to pivoting. When executing the cross over step, the first step will be a change in foot position to open the hips so that the cross over step can become the power step. The base of support needs to be wide so that the push-off leg can cross over (force production).

Deceleration is the most essential component to teaching change of direction. By teaching deceleration, you are teaching students how to get into a position that requires stabilization. This stable and loaded position allows for acceleration to occur. To decelerate, students need to take smaller steps so that they begin to "stutter step". To effectively prepare for the change of direction and accelerate in a different direction, the student needs to lower their center of gravity and increase their base of support (widen the foot position) so that they are balanced and in a position to generate force (effort awareness- force). By stutter stepping and lowering the center

of gravity the student is interacting with the ground more frequently so that he/she can increase their control over the environment. As the student accelerates in the new direction the center of gravity will rise and the steps will become larger. Once committed to the direction of travel, the first few steps must be powerful steps so that the students can accelerate in a new direction.

Deceleration can be used to come to a complete stop or to slow down enough to transfer the energy to a new direction of travel. When coming to a complete stop, there needs to be a greater amount of ground force interaction; whereas changing direction requires deceleration and loading on one leg so that you can change direction with losing a minimal amount of momentum. When teaching dodging, students need to learn how to stabilize on one foot to be able to generate power off of one leg.

Movement (How the body can move) and Activity (Where the body should move) Concepts
Fleeing occurs when a person moves away from another person to create a larger separation (space awareness- ranges) between the student and the defender. Change in speed (effort awareness- time), direction, and pathways are important elements of fleeing. When a defender is close the speed of travel needs to increase, whereas the greater the amount of separation there is between the two students the slower the movement can be. The slower the student is in reacting or executing a change in direction, the greater the angle will need to be for the change in direction.

Chasing is movement that is used to pursue another individual from different angles (relationship awareness- people). When pursuing another student, he/she must be able to read the movements of the offensive person so that they can react quickly to any changes in direction. Chasing requires one to predict the changes of direction that the other person is traveling. When teaching chasing it is important to develop students' understanding of angles of pursuit. The angles of pursuit need to be large and the defense should have their shoulders square to the person that they are pursuing. The offensive person can gain an advantage if the defense over pursues. When the defense over pursues, the offensive person is provided with the opportunity to cut back and change direction. When using the angles of pursuit, students should be working to force the offensive person "inside out" (space awareness-directions)—forcing the offensive person out to the sideline

BIOMECHANICS OF DODGING

In order to generate force to decelerate, accelerate, or change direction, the body must use the muscles in a sequential manner to generate the maximal amount of force required. The summation of force requires sequencing of the firing patterns of different muscles: core stabilization, the recruitment of large force producing muscles, and then smaller stabilizing muscles located in the extremities. (Summation of Force)

When producing force, there must be an action to produce the intended movement (reaction). Optimal deceleration occurs when the body is able to get into triple flexion. This loaded position will allow you to accelerate (produce force) through triple extension. Your ability to accelerate or generate force is dependent upon the ability to get into the triple flexion position. (Law of Equal and Opposite Reaction) The ability of a student to accelerate is proportional to the force that he/she is able to apply. Therefore, when changing directions, the student's ability to accelerate is dependent upon how much force he/she can generate on one leg. (Law of Acceleration)

When moving in an intended direction, the body does not want to change directions because of inertia. In order to change direction, the student has to change their movement pattern by increasing the ground force reaction. This increase in interaction with the ground (stutter stepping) allows the student to gain greater control over the environment, therefore allowing for a change in direction and transferring the energy to a different direction.

DODGING, FLEEING AND CHASING CONCEPTS

Acceleration is a positive rate of change in velocity (increasing speed at a faster rate).

Angles of Pursuit refer to the angles that the chaser or defender uses (relative to the opponent) to stop forward progress. The angle of pursuit should drive the opponent inside out (toward the sideline).

Center of Gravity is the center point where most of the mass is located around. A lower center of gravity is more stable than a higher center of gravity.

Cushion is the amount of space between you and an opponent. An offensive person wants to create a large cushion by changing pathways. A defensive person wants to lessen the cushion to stop forward progress.

Deceleration is a negative rate of change in velocity (decreasing speed at a slower rate).

Dynamic Balance is the ability to maintain balance while moving through space. Dynamic balance is a result of coordinated movement.

Effort is the ability to demonstrate a change in force, time and/or flow. Skills that require more slow and controlled movement require more effort or force.

Force is the interaction between two objects. In order for force to create movement, the force (strength or power) that one object applies to another has to be greater.

Separation is the amount of space between you and an opponent. An offensive person wants to create a large cushion by changing pathways. A defensive person wants to lessen the cushion to stop forward progress.

Space is created by changes in direction, pathways, planes, levels, and extensions. These changes allow the body to move forward, backward, up, down, diagonal, sideways, etc. Space can refer to general space or personal space.

Relationships with different people are demonstrated as the position of at least one person is changed in relationship to another. The relationship of two people can be: together, apart, alternating, beside, in front, or behind.

Time refers to how fast or slow a skill occurs within a moment of time.

Transitions are movements or skills that are performed to create flow between two movements. Movements that are used as transitions support the transfer of energy to increase the amount of force production and to change an element of movement: body position, space, effort, and/or relationships.

Triple Extension is the extension at the hip, knee and ankle joint. By extending through the hips, knees, and ankle in a sequential manner (summation of force), one is able to generate a greater amount of force.

Triple Flexion is the flexion at the hip, knee and ankle joint. By getting into triple flexion, one is able to sequence the extension of the joints (summation of force) to generate a greater amount of force.

Weight Transfer is when the weight of the body is moved from one body part to another with the purpose of moving from one place to another or to change position.

Components of Cognitive Concepts

- Skill Concepts identify how the body should move. By developing skill concepts in students, they will be empowered with the necessary knowledge to pursuing skill acquisition outside of the confines of physical education or structured programs.
- Movement Concepts identify how the body can move. When students perform skills in a dynamic environment, no two situations will be the same and the “technique” of a skill is often sacrificed to meet the demands of the particular situation that they are faced with. It is important to develop movement concepts so that students can begin to combine various fundamental movement skills together to perform specialized movement skills. In order to accomplish this, students need to be familiar with movement concepts (effort, space and relationship awareness).
- Activity Concepts are related to where the body should move. Where an individual should move is critical to effective participation in any game. When engaged in various activities, students are faced with different tactical problems that require them to understand where to position themselves, how to respond to the different elements of game play, and how to implement strategies to support successful participation.

Elements of Movement:

- Space
 - Ranges: Personal Space, General Space
 - Pathways/Directions: Forward, Backward, Curved, Straight, Zigzag, Diagonal, Sideways
 - Levels: High, Medium, Low
- Effort
 - Force: Strong, Light
 - Time: Slow, Medium, Fast, Sustained, Abrupt
- Relationships
 - People: Behind, In front, Apart, Together, Alternating, Beside

Principles of Balance:

- Base of Support is the contact area of the supporting surfaces and the area that lies between these points of contact. The points of contact create ground force reaction, allowing an individual to generate force. The larger the base of support is, the greater amount of ground force reaction, the greater the force production.
- Center of Gravity is the center point where most of the mass is located around. A lower center of gravity is more stable than a higher center of gravity.