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## In this Issue:

- Physical and Health Education Curriculum: Cross Canada Perspectives
- 1999-2000 RAP Winners
- Great Lesson Plans to Try

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# A tactical framework

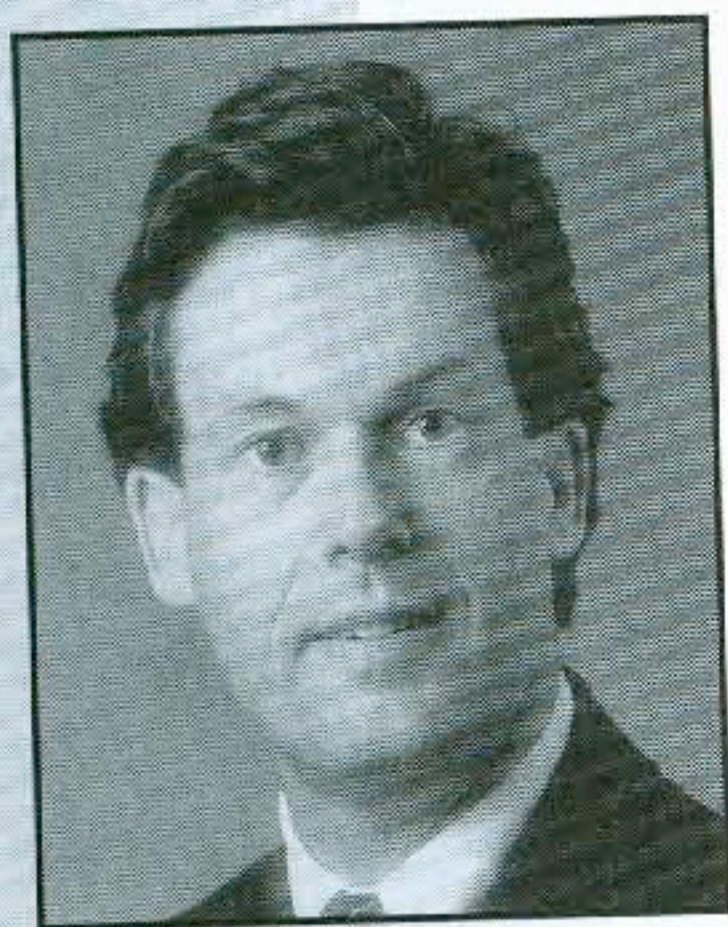
# for teaching games:

## Teaching strategic understanding and tactical awareness

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### Introducing a tactic-to-skill approach

When we teach games, we need to teach motor-skills in learnable elements. But how do we teach tactics? How can we break tactical components down into learnable elements? This article will explain, based on a games classification system, a tactical framework for teaching games that enables strategic understanding and tactical awareness to be taught in simplified elements. These elements will then build into concepts that can transfer between games. In this article, a game is understood as those physical activities with an object that is played in society such as football, tennis, golf and softball. Strategic understanding is identified as how students understand ways of playing, for example keeping the ball going when playing tennis. Tactical awareness is identified as ways of playing to gain an advantage over opponents, for example a fast break in basketball.

Teaching Games for Understanding (TGFU) is an approach to teaching games that places the child's understanding of a game as the central concern before refining the skills to play the game. Thorpe, Bunker and Almond (1986) popularized the TGFU approach in the United Kingdom in the eighties. It is now gaining wider interest in the United States (Rink 1996; Werner, 1996) and is being developed in Canada (Hopper, 1998; Mandigo & Holt, 2000).

The TGFU approach enables students to learn from playing modified games "what to do" and "how to do it" as a pre-requisite to learning. In this approach, instead of showing students how to do a

skill for an adult game like volleyball or soccer; the teacher introduces the students to a modified game that they are more able to play. The game focuses on a *skill* or *strategy* of play that the students need to develop. Through a series of guided discovery questions, the teacher enables students to realize **strategic** (ways of playing), **tactical** (how to beat an opponent), and **technical** (biomechanics of skill performance) aspects of playing a game. In essence, in the TGFU approach the teacher teaches the '**why**' of playing a game, before the technical '**how**' of doing the skills for the adult game. A key aspect of this approach is to get the student playing a game with skills they can do, allowing the student to focus on the



tactics of playing a game. As tactical awareness is grasped, then the student is taught more advanced skills as the modified game is changed to challenge a student's motor-skills. In this way a tactic-to-skill approach is developed.

### A games classification system

Games classification systems were popular during the 1970s and 1980s. They presented frameworks for selecting and teaching games that would offer a well-balanced curriculum (Werner & Almond, 1990). The most popular game classifications systems were those advocated by Mauldon & Redfern (1981), Ellis (1983) and Thorpe, Bunker & Almond (1986). As Werner and Almond (1990) explain, each of these classification systems had unique characteristics, but developing from the lead of Mauldon and Redfern (1981), the essence of these classification systems was focused on the body-management (locomotive, non-locomotive) motor skills and equipment handling (manipulative) motor skills needed to play games. For a detailed explanation of games classification systems based on motor-skills, refer to Wall and Murray (1994).

Based on these classification systems, provincial curricula in British Columbia, Ontario and the national physical education curriculum in the United

Kingdom have grouped games into the following categories:

1. **Target Games** - such as golf, lawn-bowls and ten-pin bowling.
  - Essential body management (BM) skill is balancing.
  - Essential equipment handling (EH) skill is sending-away (throwing or striking).
2. **Batting and Fielding Games** - such as cricket, softball and baseball.
  - Essential BM skills include run, jump, stop, turn and guard.
  - Essential EH skills are sending away (throwing and striking) and receiving (collecting and catching).
3. **Net/Wall Games** - such as tennis, volleyball, badminton, squash and racquetball.
  - Essential BM skills include run, stop, turn, jump and guard.
  - Essential EH skills include sending away and preparing to receive.
4. **Territory Games** - such as soccer, ice hockey, basketball, rugby and football.
  - Essential BM skills include run, stop, turn, jump and guard.
  - Essential EH skills include sending away, receiving (catching and trapping) and retaining (dribbling and carrying).

Hopper (1998) suggested progressive principles of play for the four game categories based on the primary rules of

games. The principles of play are the basic elements that structure effective game playing. For example, in net/wall games the primary rule is **to get the object into the area of play more often than an opponent**. This rule leads to progressive principles of play that are **consistency, placement** and **positioning** of the object in relation to the opponent's target area, and finally **spin** and **power** to make it difficult for an opponent to get the object back into play.

The principles of play provide a framework to progressively teach students strategic understanding to be successful game players. However, student understanding of these principles does not develop by simply being told or shown. Students need to be taught the principles of play repeatedly through gradually developing modified games. Teacher guidance throughout this process will enable students to understand how to gain an advantage over an opponent. In other words, students need experiences in lead-up games that allow them to figure out how to play tactically.

### Tactical Awareness Components

Tactical awareness components offer prompts for analyzing tactics in game playing (Hopper & Bell, 1999). It is based on five components that are broken down into two groups: **initial**

*This article will discuss a framework known as tactical awareness components to increase cognition (TACTIC) for understanding. It breaks down the strategic and tactical elements of playing games within the four game categories: net/wall, territory or invasion, batting/fielding, and target. Connecting to the teaching games for understanding approach, the TACTIC framework presents five game play components of space, force, time, self and other, and applies them to two lead-up games from the net/wall games category. The article concludes by suggesting that teaching students with the TACTIC framework offers teachers a way to systematically breakdown tactics into elements. This enables students to (1) understand what skills are needed to play games, (2) appreciate the play of games, and (3) become game performers who play with tactical sophistication.*

*Cet article porte sur le cadre des éléments tactiques qui rehaussent les connaissances nécessaires à la compréhension, connu en anglais sous l'acronyme Tactic. Cette démarche vise à séparer les éléments stratégiques et tactiques d'un jeu en quatre catégories : mur ou filet, territoire ou invasion, jeu au champ ou au bâton, et cible. Dans le cadre de l'enseignement des jeux en vue de leur compréhension, le cadre Tactic présente cinq éléments de jeu, c'est-à-dire l'espace, la force, le temps, soi-même et les autres, et les utilise dans deux jeux de la catégorie des jeux de filet ou au mur. La conclusion de cet article est que l'enseignement fondé sur le cadre Tactic permet aux enseignants de diviser systématiquement les tactiques en éléments. Cette démarche permet aux élèves de comprendre les habiletés nécessaires au jeu, d'apprécier les jeux et de devenir de bons joueurs capables de saisir la complexité tactique des jeux.*



components and advanced components (see Fig 1).

Initial components contain three aspects:

1. **SPACE:** Where an object should be placed in the play area, where a player should go in the play area.
2. **TIME:** When to execute a skill within a game, when to create time to play a shot.
3. **FORCE:** How much and where to apply force on an object for height, directional control and distance.

Traditionally, teachers have used these components in movement approaches to help students explore as they learned to control objects. They have been particularly effective for young students and when introducing students to game structures with a co-operative focus.

**Space** is foundational to tactical awareness. Once students understand the need to manipulate how they use space, then **time** and **force** become a natural progression to their growing tactical sophistication. Time and force components add further dimensions to tactical play. Opponents who use all the components to affect their play create an unpredictability that keeps the outcome of play uncertain as they probe the ability of their opponents. This relationship focus is fundamental to making a game play.

The advanced components of **self** and **other** focus on the relationships between opponents use of **space**, **force** and **time**:

1. **SELF:** In relation to what you are able to do with the initial components, what should you do to gain a tactical advantage over your opponent?
2. **OTHER:** In relation to what the other player is doing with the initial components, what should you do to gain a tactical advantage?

These components highlight the infinite possibilities of game play against similarly astute and agile opponents. They combine with the principles of play to create the tactical awareness components

Figure 1: Tactical depth and breadth matrix for "Toss onto target" game and "Castle" game progressions

Game and focus	Principle of Play depth	Tactical Awareness Components for breadth				
		Initial			Advanced	
		SPACE Where	FORCE How	TIME When	SELF In relation to...	OTHER
<b>Toss onto target</b> Bounce, catch then send. Co-operative then compete	Consistency ↓ Placement & Positioning	Where is the biggest target area?	How hard to send the ball to be able to get ball to hit target?	When playing a shot can you get to next shot?	In relation to the ball, move self to bounce of the ball.	
		Where is your partner's target area?	How will you apply the force to keep the ball in?	When do you use height to recover?	What is the area to get into to be ready for next shot?	How can you anticipate the placement of partner's shot?
<b>Castle game</b> Bounce to hit target. Co-operative then compete	Consistency ↓ Placement & Positioning ↓ Spin & Power	Where will the ball land?	How can you use force to control ball accuracy?	When do you hit the ball high for time to get to bounce?	In relation to target where is the best place to stand?	In relation to opponent's hit where should you stand?
		Where do you go after striking the ball?	How hard to hit ball and in which direction to be ready for next shot?	When will partner hit ball to target?	How can you position yourself to use your favoured side?	Can you send the ball where your opponent does not expect it to go?
		Where will the ball bounce if you use spin?	How will force be applied to the ball to make it spin?	When should you spin the ball and when use power?	How well can you spin the ball and control placement?	How can you use spin to get your opponent out of position?

to increase cognition (TACTIC) framework. The following example from the net/wall category of games shows how a teacher can use the TACTIC framework.

### Toss onto target game

This game has worked well with grade two students. Before any game, teachers must ensure that students have the prerequisite skills at a level that will enable them to play. In this game, students need to be able to *consistently* toss a ball into the air and catch it after one bounce. Key refinements to help them perform these skills are:

- (i) Toss with arms extending up.
- (ii) Move to where the ball is going to bounce.
- (iii) Get beneath the ball.
- (iv) Keep hands together and draw the ball into the body as it drops into hands and arms.

Once students have mastered these refinements, the teacher gives each student a target (coloured card). Now they are ready for the "toss into target" game.

The teacher assigns the following task: "Tossing the ball up above your head,

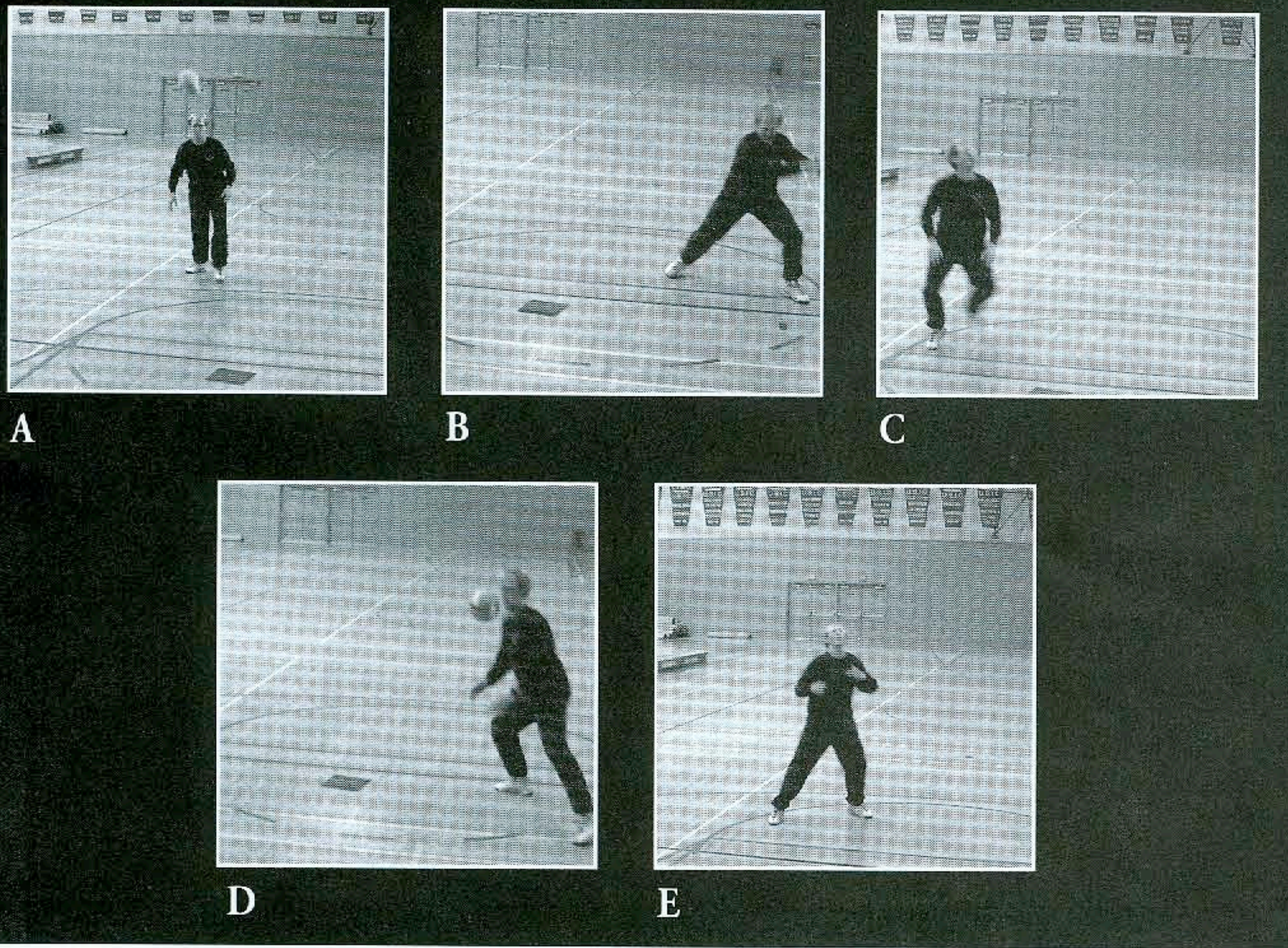
how many times can you get the ball to hit the target and then catch it before it bounces again?" See Figure 2.

This task will help students to toss and catch balls after one bounce consistently while learning the technique for tossing the ball accurately (**placement**). Young students usually toss the ball up and towards the target, and then watch the ball as it bounces before chasing after it (see Figure 2a). Rarely, using this approach, do students catch a ball before it bounces. They often over-stretch for the ball (see Figure 2b), fail to catch it, or stumble as they catch. To help students gain enough time to catch the ball after one bounce, ask them to explain what happens when they toss the ball higher. Students will soon learn that more height on their toss gives more time to catch the ball after one bounce (see Figure 2c).

Students may now need help throwing the ball up towards the target, moving to the bounce of the ball, and waiting for the ball to drop into their hands. These are refinements for throwing and catching. Soon more strategic understanding will need to be taught with another spatial component question. For example: "After you toss the ball where should you go?"



Figure 2: Student playing "Toss onto target" game.



To help the students understand, ask the following questions:

**TEACHER:** "Where do you want the target to be after you have caught the ball?"

**STUDENT:** "In front of me"

**TEACHER:** "So where do you need to go?"

**STUDENT:** "I want to run around behind the ball."

**TEACHER:** "Why?"

**STUDENT:** "So that I can catch the ball after one bounce, then quickly toss it at the target again."

As students are challenged to get around the other side of the target, they will learn to:

- Move quickly sideways,
- Keep their knees bent,
- Push off the outside foot to move quickly.

The last three pictures in Figure 2 show a student throwing the ball with height (Fig. 2c), relocating to the opposite side of the target before the ball has bounced (Fig. 2d), and then safely catching the ball facing the target for the next toss (Fig. 2e).

As this principle of positioning is being grasped, some students may need to be reminded to toss the ball higher. Students tend to throw the ball at the target with minimal height, but then become aware of how a little more force in the right direction (upwards) will give them more time to get behind the ball. As the spatial awareness component is learned, students will start to understand how positioning provides more time to be consistent at tossing and catching the ball. This allows them to do more tosses as they work on getting the placement of the ball onto the target.

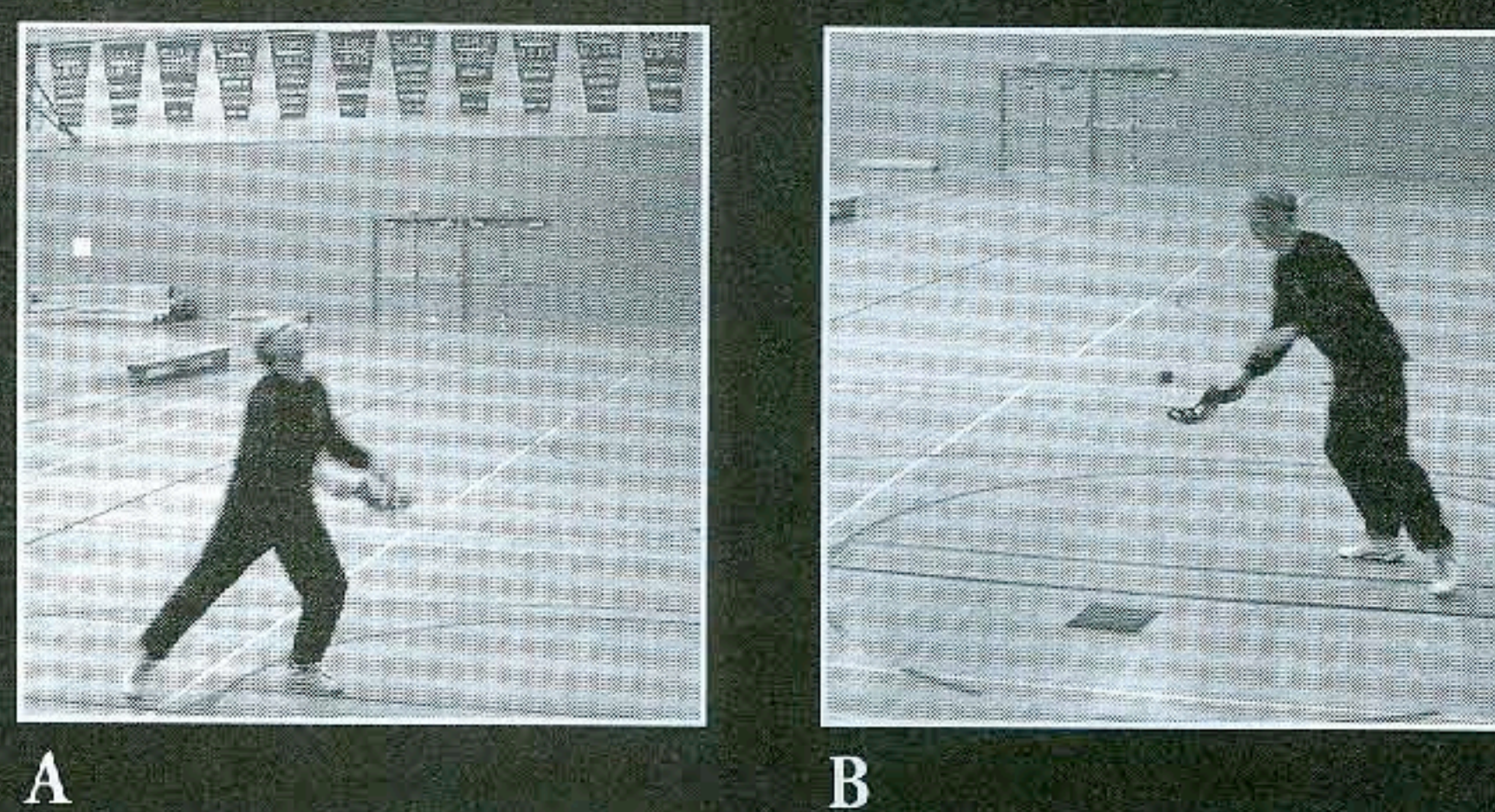
This game, with the same progressions, can also be used with grade 4 and older students using smaller balls (tennis ball size balls). Once these students have followed the sequence of tasks, students can try using scoops instead of their hands to catch a ball. As they succeed at this, ask them to try striking a ball using the palm of their hand followed by a light paddle bat. Figure 3 shows a student playing the "toss onto target game" with a scoop. His ability to move to receive the ball before it has bounced gives him time to catch the ball. This recovery movement also encourages the student to use a side-stepping, lateral movement that is so important in net/wall games. Grade 4 students can play this game in pairs, hitting the ball alternatively to see how many times they can hit the target.

Once the initial tactical awareness components have been taught, students will have developed many strategic ways to play net/wall games. At this point the students are ready to work with/against an opponent. The following game is a progression of tactical questions that will help students develop the initial and advanced tactical awareness components for play against an opponent.

### The Castle Game

The Castle Game is played between two or three players and is therefore more suitable for grade 3 students (eight years of age) and older. The object of the game is to get a tossed or struck tennis-size ball to hit a pile of four tennis-sized balls (the castle) as shown in Figure 4. There are three essential rules:

Figure 3: Student playing "toss onto target" game with a tennis ball and scoop





- (1) The ball must be hit above waist height,
- (2) The ball must bounce, and
- (3) The ball must be hit alternatively.

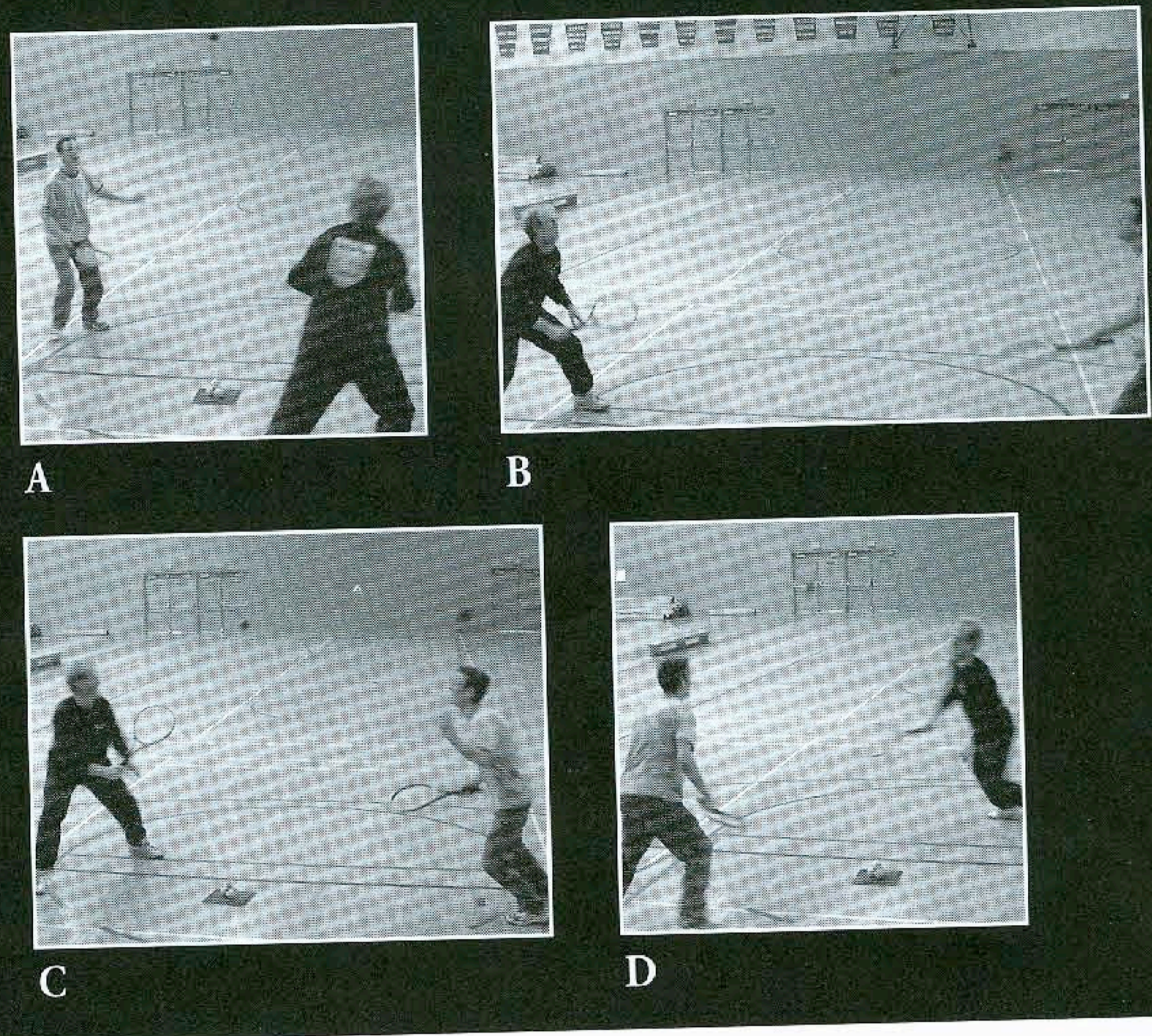
The students can decide how to start and re-start the game, what happens when the castle is hit, and what happens when any of the three essential rules are broken. The teacher may need to modify the equipment or object to help students play; for example, using a larger ball to work on tossing and catching if striking is too difficult. Or a teacher may need to work on the refinements for striking a ball and keeping it going after one bounce; for example, the students will first work individually using their hands, followed by a light paddle bat, and then playing against a wall hitting the ball high.

As shown in Figure 4a, when working in pairs students have a tendency to strike the ball, then stand and watch their partner play a shot. To address this lack of preparatory action, ask the following tactical awareness questions: "Where should you stand after you have struck a ball?"

This positioning question focuses the students' attention on what happens after they have struck a ball and their partner is striking the ball. The players need to consider where the ball will go after they have hit it while also thinking about what the other player will do - where will the **other** player hit the ball? This starts the development of the advanced tactical awareness components. Since the aim of this game is to hit the target, the teacher wants the student to answer: "I should go opposite my partner, in line with the target." Figure 4b and 4c show a student moving opposite to where his partner is going to hit the ball. Notice how the lateral movement developed in the Toss onto Target game has transferred into the more challenging Castle Game.

When the students learn this tactical idea, they will discover that they have more time to play the next shot since they are anticipating where the ball will go. With

Figure 4: Student playing "Castle" game with an opponent



## Too often games teaching has focused on the technical aspects of isolated skills that rarely transfer into actual game play.

more time to play a shot, students can control the force of their shot in order to send the ball accurately towards the target. The teacher may need to work on technical refinements to help students: wait for the ball to drop, with bat preparation, grips, hitting with forehand and backhand sides of the bat, and setting up the body in preparation for striking the ball. However, with an awareness of effective positioning the students will learn to move side-ways effectively and create time for successful practicing of the technical refinements within the game.

Ask this question to help students consider their own abilities and how to maximize their chances to play effectively: "If you prefer hitting the ball on one side, how should you position yourself in relation to the target?" This 'self' question usually helps students to learn to set up with their forehand side favoured for receiving the ball. As students gain confidence hitting the ball with one side of the bat, they realize the need to develop the ability to hit with both sides of the bat. At this point the teacher can get the students to practice their backhand strokes, introducing the idea of a grip change.

Once students can anticipate where their opponents will hit the ball and can prepare effectively, ask this advanced tactical awareness question to develop further excitement in the game: "If your opponent anticipates where you will hit the ball, should you always hit the ball towards the target?"

Students will likely start to hit the ball away from the target in order to also move their opponents away, aiming at the target only when they think their opponents are out of position or forced to hit with their



less favoured side. Once students start doing this tactical play, a new rule may be needed to determine boundaries for ball play. To help students recover when they are out of position, the teacher can remind them that if they hit the ball higher they will have more time to prepare for the next shot. All of these elements create a dynamic game (see Fig. 4d) where the skills are being developed while playing tactically against an opponent.

When students consider both their own and their opponents' options, spinning the ball becomes a skill that makes it more difficult to hit the ball accurately. Some students start spinning the ball as they learn how to control the ball by applying the right amount of force. This advanced skill can be developed further in game structures that have a court and a net.

### Conclusion

The progressions in the Toss onto Target Game and Castle Game can be used as co-operative beginner games to develop strategic understanding. With more advanced players the games can be played competitively trying to beat an opponent, thus developing tactical awareness. Skills developed in these games can then be transferred into other net/wall type games. Both games can be played against a wall, with the target being placed slightly away from the wall so that it can be hit after the ball rebounds from the wall. For net/wall games like badminton and volleyball where the object is not meant to bounce, the same progression can be used except the players try to prevent the object from bouncing in a play area.

Using the principles of play for depth and the tactical awareness components for breadth, the TACTIC matrix introduced earlier in Figure 1 can be developed to summarize the strategic elements that develop tactical understanding. Each cell within the matrix offers strategic elements that the teacher can use to focus students' attention. While students are playing, the matrix provides prompts that will help

the teacher to develop tactical awareness. These questions are only examples. Teachers should feel free to develop additional questions. As students' awareness grows, they will develop an array of strategic understanding that will lead to tactical awareness that can transfer to other net/wall games.

The TACTIC framework offers a systematic way to teach the tactical complexity of games in the net/wall, territory, target, and batting/fielding game categories (Bell & Hopper, 1990a; Hopper & Bell, 1999). Too often games teaching has focused on the technical aspects of isolated skills that rarely transfer into actual game play. The reason for engaging in games is not to perform a skill or to display one's physical prowess, but to use a repertoire of skills one is developing to play against the structures of the game and the challenges set by an opponent. As Griffin, Mitchell and Oslin (1997) indicate, games' teaching is more than simply executing skills. It requires a relationship of tactic-to-skill "which involves combining tactical awareness and skill execution". Thorpe et al. (1986) report that players that learn to play tactically: will play games for the mental challenge **as well as** the physical exertion, are more likely to play longer, and will also appreciate simply watching games. In order to become intelligent players who appreciate game play, the cognitive challenge of playing games must be broken down. The TACTIC framework provides teachers with a useful way to systematically break down tactics into elements that will allow students to understand how to be game performers that play with tactical sophistication.

For further information and examples related to this approach visit <http://web.uvic.ca/~thopper>.

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