Teaching tennis with assessment for/as learning

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Introduction: Tennis a net/wall game

I have noticed in my experience of visiting schools that few PE teachers feel comfortable teaching tennis. Tennis lessons result in balls flying out of the court, students standing waiting their turn to hit a ball… it is basically a frustrating experience. Even when I see students have gained some ability to hit the ball in the court, a teacher finds it challenging to assess their skills in a way that will encourage students to play more. How can we teach tennis and assess tennis to emphasize the joy of playing a ball and the excitement of a well played point? In this paper I suggest a TGfU approach combined with assessment methods focused on student's learning to read the game of tennis.

The notion of learning to "read" game play from a tactical understanding of the game, is one associated with literacy in its broader sense. The idea of reading the meaning of actions, can be represented by a simple symbol system. To "read" game play a person must understand enough of the whole of an activity to recognize and connect the relationship patterns of the individual components.

Within the TGfU approach, tennis is one form of a game in the net/wall games category. As developed by Hopper (1998, 2003), the net/wall games can be understood in relation to three principles of play:

1. Consistently returning the ball and move to cover centre of the opponent's target.
2. Placement of the ball into the opponent's area of play to make it difficult to return.
3. Spin to control the ball flight and force (power) to make a ball difficult to return.

Each of these principles offers a conceptual focus for developing lessons in any unit of instruction within a net/wall games category.

Modified games and learning to read the play of the game

Tennis is a complex game to play. Too often teachers try to teach students a tennis skill, model it and then feed them balls to hit, but rarely does this transfer into the game. To learn tennis, students need the basic motor-skills for catching, throwing, stopping and guarding. Students should learn first how to catch a bouncing ball, send a ball to a target and field a ball back to a partner. Learned in simple focused games, all these skills and others lay the foundation to play tennis. Within tennis lead-up games, the notion of how to play with a partner in a tennis-like game can be developed through throwing-catching games. As described by Hopper (2003), simple games such as the Castle game (see Figure 1) could be used to get students to learn to send the ball consistently to a target. The aim of this game "Try to hit the castle target" (small yellow pylon) and the three rules listed in the Figure 1 set up a tennis-like relationship between the players. In this game players toss the ball in the air, above their heads, trying to hit the yellow pylon (castle) and then the partner catches the ball after one bounce and tries to do the same from where they catch the ball. Additional rules can be added, but the height and bounce rules initially create a game where students have time to read ball flight and their opponent's movements. When first playing this game, catching then sending the ball can be the skill focus, but gradually, as the students learn to set-up for the ball being sent to the target, they can be shown how to hit the ball using their hands or a short handled racquet. As students work with partners they can learn key ideas about their movement-off-the-ball in order to execute a skill. For example, here is a description of how students should learn to move in four movement phases (i.e., 4 R phases) of recover, read, respond, and react (Hopper, 2003). In the Castle game, as soon as the player sends the ball above her head aiming for the target she needs to recover to a ready position with her weight evenly distributed on toes, knees bent, feet shoulder width apart and facing the target. This ready position sets her up to read the situation her shot created. If her shot was close to the targets she can make a decision to move her base position close to and opposite the target from her opponent. If her shot was away from the target she can decide to take up a position opposite where she thinks her opponent will be able to send the ball (behind the

Drawing on experiences of teaching tennis courses based on a TGfU approach, this article will outline ideas for developing assessment practices where students learn to read the off-the-ball movement of players. This paper argues that assessment must move from a reliance on assessment of learning to assessment for and assessment as learning (Earl, 2003). When teachers and students become focused on assessing learning to play the game rather than assessing the skills of the game, they learn to read and understand the players' role in game play. Such reading encourages students to make anticipatory movements that put them in positions to be successful at executing skills. From this basis, the article will draw on experiences teaching high school students and first year university students (Hopper, 1990; Hopper, 2003).

S'inspirant des expériences d'enseignement du tennis selon une approche TGfU, cet article explore des façons de mettre au point des pratiques d'évaluation qui permettent aux élèves d'interpréter les mouvements des joueurs sans la balle. Cet article argue que l'évaluation doit évoluer, passant de l'évaluation de l'apprentissage à l'évaluation pour l'apprentissage et comme apprentissage (Earl, 2003). Lorsque les enseignants et les élèves commencent à mettre l'accent sur l'évaluation de l'apprentissage du jeu plutôt que sur l'évaluation des habiletés au jeu, ils apprennent à interpréter et comprendre le rôle du joueur dans le jeu. De telles interprétations encouragent les élèves à poser des gestes anticipatoires qui les aident à maximiser la bonne exécution des habiletés. Des termes comme Base (recouvrement), Décision (interprétation), Couverture (réactivité) et Ajustement (réaction) servent à articuler et présenter les mouvements sans la balle des joueurs pendant une joute. Partant de ce fondement, l'article s'inspire des expériences d'enseignement aux jeunes du secondaire et de la première année d'université (Hopper, 1990; Hopper, 2003). Lors des expériences passées, on a eu recours aux évaluations fondées sur des critères et à l'instrument d'évaluation du rendement au jeu (Griffin et al., 1997) pour noter le progrès des élèves et pour souligner leurs réussites.

castle target and roughly in-line with the opponent). As the opponent hits the ball the player must respond with guarding movements in relation to where she judges the opponent's hit will land. By covering this area she sets herself up to send the ball back towards the castle target. As the ball bounces the player reacts to the ball's bounce with small adjustment movements so that she can hit a falling ball at waist/knee height in the hitting zone in front of her body. These movements set the player up with time to execute the technique of a forehand or backhand stroke with grip, swing and racquet contact being refined. For more modified games like this see http://web-uvic.ca/~thopper.

During game play the teacher would ask questions to focus students on where they are positioning themselves after they have hit the ball, how they are hitting the ball, or where they are aiming the shot. At times, skill practices would result from such questions. This TGfU approach is extremely effective at allowing students to play in tennis-like game structures and develop fundamental skill patterns. To transfer students' learning into the full tennis court, students need to understand how they are learning and they need to take responsibility for their learning and for assessment.

As the students are taught to value the off-the-ball movements in increasing more complex game situations, the assessment system needs to value this learning.

Assessment of/for/as learning

As noted by Earl (2003) in assessing student learning there are three approaches.

(1) Assessment of learning focused on the summative achievement of the student representing what they have learned in the unit of instruction. Skill tests at the ends of units are common examples of this type of assessment.

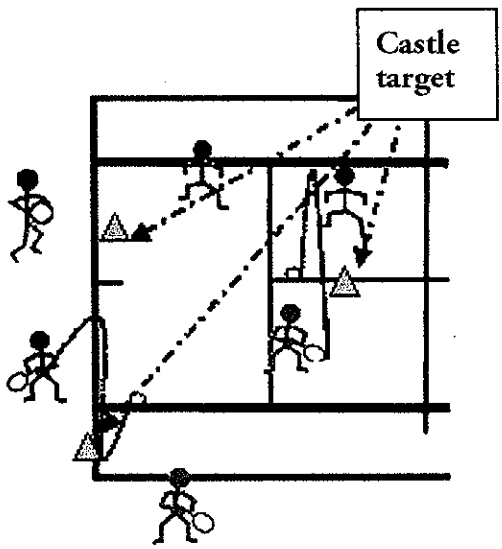
(2) Assessment for learning is focused on a more formative account of learning where students are given on-going feedback on their progress. For example, criteria rubrics used by the students to note their progress.

(3) Assessment as learning focuses on a more self-assessment account of learning where students are given the opportunity to collect data on their progress which they can then synthesize to understand how they are learning.

Criteria assessment for learning

As the students are taught to value the off-the-ball movements in increasing more complex game situations, the assessment system needs to value this learning. When I first started teaching tennis, the focus was on the performance of a skill, or rather a technique. In a ball feeding situation, students were assessed for

Figure 1. The Castle Game



Castle Game.

Aim: Try to hit the castle target

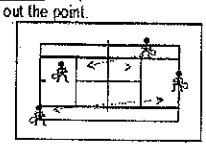
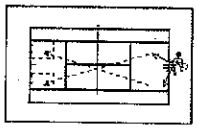
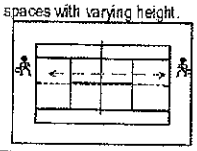
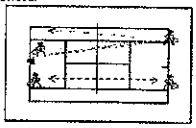
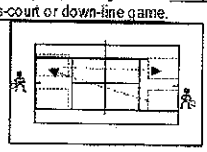
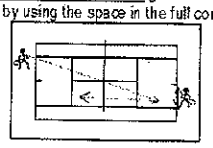
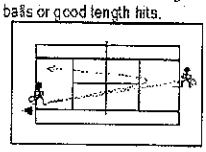
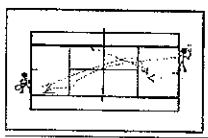
Rules

1. Must send ball above head height.
2. Play ball alternatively with partner.
3. Ball must bounce once between turns.
4. Decide with partner how you start and re-start the game.

Rules

Add a striking ball motion with hand or bat.

Figure 2. Criteria Assessment for Tennis Drives

Date and Signature	DRIVES practice focus	Co-operative Game/Task Competitive	
(1)	*Half to full court length.* *Perform shots with movement around the full court. Return to **base** position after each shot. Use height and one touch control to set-up for the ball. **Adjust** to hit ball in hitting zone at waist/knee height in front of leading foot. Perform rally with partner changing grip hitting both forehand and backhands. Target 20 shot rally. Rarely miss court in 3-ball feed drill.*	6 shot rally with partner or coach then play out the point. 	*3-ball feed hitting to pressing zones.* 
(2)	*Short to half and then full court.* *Play with greater consistency. Handle high and low bouncing balls, consistently hitting the ball in the hitting zone. Start mini court from partner feed. Use backhand and forehand brush progressions. Use height for time, recovering to **base** position 1m behind the base-line. Read situation to **decide** to move forward or back. Split-step to **cover** space as opponent strikes the ball.*	Target 10 shot competitive rally with ball hit to spaces with varying height. 	Play 5 game after 4 shots rarely missing in first 4 shots. 
(3)	*Half to Full court* *Control depth and placement of shot. Show ability to put pressure on an opponent in a game by **deciding** to move into court when anticipate a short ball. Hit (50%+) to the pressing zones beyond the service lines. Able to direct the ball across court or down the line as needed. Always set-up a good **base**. Split-step to **cover** opponent's target area. Use time to **adjust** body position to ball.*	6 shot rally to pressing zones. Co-op play cross-court or down-line game. 	Play half court v whole court game winning points by using the space in the full court. 
(4)	*Full court.* *Ability to control your shots using spin (slice and topspin) and demonstrating good technique on drives. Footwork around the court should show **base** and anticipation movements (coasting in or moving back). Split step prep to **cover** target area and always **adjusting** for weight transfer when not under pressure.*	Rally in 5-game with spin to pressing zones. Move in to take advantage of short balls or good length hits. 	Integrate first and second serve into 5-game with effective base position off serve. 

hitting a forehand or a volley, etc. This approach focused on assessment of learning and was not very effective; there was limited transfer of technique into a game. I decided to create a form of practical assessment involving a progressive rubric of games and criteria for skill execution (Hopper, 1990). Figure 2. is an example of an extract from one rubric for drives in tennis. As can be seen in the table, the language of recovering to a base position, reading the situation to make a decision, guarding movements to cover the target area and adjustment movements for shot execution are woven into criteria related to game situations. Initially, game situations are co-operative becoming increasingly competitive. The criterion integrates game-like practices and drills taken from class. For example, row two in Figure 2., (brushing) refers to a progression that breaks down the forehand and backhand skills in small steps starting from contact and working back to full swing. "Competitive rally" refers to keeping the ball going with a partner by hitting the ball to spaces to make them run and recover (see http://web.uvic.ca/~thopper for more details on these and other games).

As a teacher, I had great success with this form of assessment. Over time and working with student feedback, I wrote and re-wrote the criteria. In class, students were encouraged to assess themselves and then, periodically, I would confirm their assessments. Students would work in pairs or small groups based on an area they wanted to improve (drives, service or net-play). With my help they would work in skill practice situations and/or games to meet the criteria for each level. Rapidly, students were working on different levels, making progress as they mastered the challenge described. To ensure that students worked across ability levels, I added additional criteria that awarded students an extra level of achievement if they successfully coached a peer up one level in the criteria. Also, students that reached the highest levels in any one section were given the authority to assess their peers and pass them at lower levels. I found the assessment moved from assessment of learning where I had total authority of students' grades, to assessment for learning as the students learned to support and interpret each others learning.

Evidence of success in TGfU and approach to assessment and TGfU approach came in my second year of teaching in a high school. The popularity of tennis grew exponentially. The student demand to play tennis was so high that we had to create a lunch time booking system for different year groups.

Assessment as learning: GPAI for reading complexity

When I started working in teacher education at a university I discovered Oslin, Mitchell and Griffin's (1998) game performance assessment instrument (GPAI) which offered me a tool to focus student attention on their off-the-ball movements as well as their skill execution. Recognizing the meaning of player movements allowed students to

Figure 3. Movement in first stroke of a point

Evidence of success in TGfU and this approach to assessment came in my second year of teaching in a high school. The popularity of tennis grew exponentially.

understand how a player can read a game and make tactical decisions in order to maximize their chance of being successful.

In a similar way to how movements were described around the four R phases in the Castle game, the movements of a player in a net/wall game can be recognized in relation to the GPAI components. Recovery movement in a base position sets up the player to read the situation and make a decision movement in anticipation of the opponent's expected shot. As the opponent strikes the ball, the player responds with movement to cover the actual target area where the ball is sent and then reacts to the ball with small movements that adjust the body position for an effective skill execution. Figure 3. shows a picture with each distinct element of the four phases blended together into one image. Initially, when looking at this picture it looks very complex, almost overwhelming to distinguish the patterns of movements.

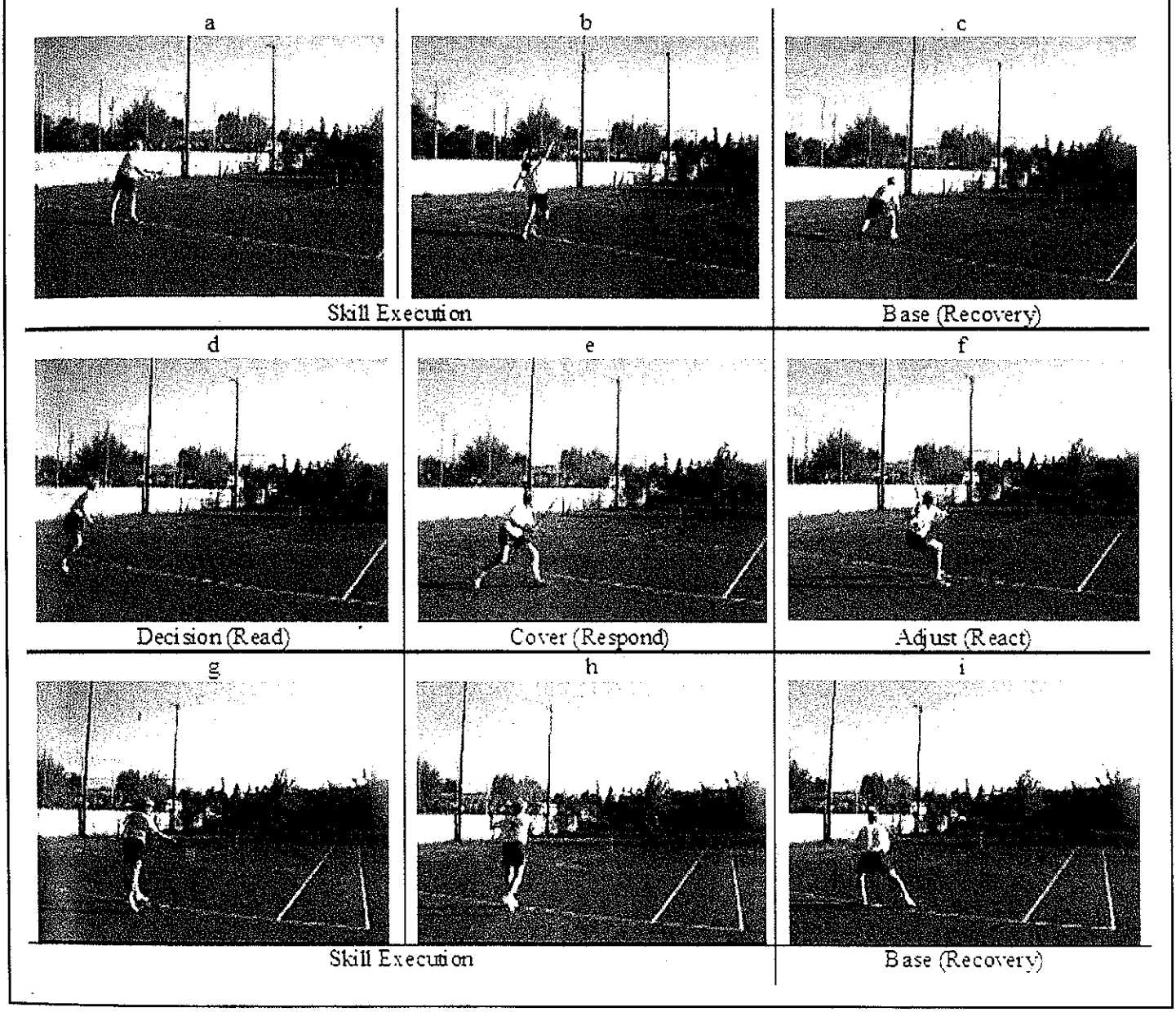
To understand and read this picture you need to recognize how each movement phase of a stroke has a distinct pattern that is related to the position of the player in the court, the flight of the ball, the opponent's position and his stroke.

Figure 4. single frames of the tennis stroke are shown and labeled in relation to the 4R phases and the GPAI components. Look at these phases and note the game performance assessment components of base, decision, cover and adjust. As the ball is served (a and b frames), the player recovers to a base position (c frame). This movement allows the player to read the situation and make a decision to move back or forward (d frame). As he observes the opponent strike the ball he responds by moving to the forehand side to cover the expected target area where the ball will land and set his weight in motion on the back foot (e frame). This movement allows the player to react to the bounce of the ball with the racquet taken back in preparation and footwork that adjusts his body position (f frame). From here the player has ample time to swing the racquet through the ball striking the ball as it falls in front of his body in the hitting zone (frames g and h). After the ball is struck the cycle repeats itself with the player's momentum allowing him to return to a base position to read the situation in preparation for the next stroke. Refer back to Fig 3 again and note the flow of the player's movement.

An example of a GPAI form

Figure 5 is an example of one format of a GPAI form I have used as a form of assessment-as-learning that enables students to read. The images in Fig 5 are example stills of movement in the four phases as seen in Figure 4. In part of a lesson, one student is assigned the role of assessor observing another student play a game of tennis. It is hard initially for students to actually observe each movement phase. I ask them to focus on each skill execution with the base (recovery movement) the first time they observe. With a tick (✓) for successful execution or a cross (X) for not, each stroke in the point is noted by the observer along with the "base" movement. After two or three points, the assessor can offer feedback to the player with comments to indicate their reflections on the player's performance. After this first observation student observers can focus on "skill" and "base" again if the player needs improvement or can focus on another movement component. In Figure 5., the observer focused on "base" and "skill" in column one. The observed player did well after initial lack of movement. In the next observation the observer focused on "cover" movement and "skill" in the second column. Here the player was found wanting and missed the last shot because he was chasing the ball. After feedback focused on doing a jump step as the opponent strikes the ball, the player returned to play again. Despite an initial miss-hit the player moved a lot better, responding to the opponent's strokes with quick footwork. The observer, now getting the hand of observing, managed to record "adjust" movements noting that the player often seemed to hit the ball too high or late. Feedback this time focused

Figure 4. Still frames of a forehand being played within a game performance assessment situation



The key focus in this process is to get a general record of how the player is moving and to value the off-the-ball movements within the game performance.

Figure 5. An example of GPAI sheet with image icons for each phase of a point and example recordings made by an observer

TGFU Tennis: A Game Performance Assessment Instrument (GPAI) –

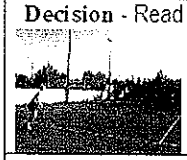
Observer watch assigned player and for each point.

1. Focus on an on-the-ball or an off-the-ball movement skill.
2. Record "✓" for an appropriate response or "X" for an inappropriate response for each movement skill as the point is played.
3. After 3 or 4 points give feedback to your player based on your observations.
4. Return to game focusing on new movement skill or repeat movement skill if improvement needed.

Base - Recover to a position to defend expected target area and set-up to attack opponent's target area.

X ✓
✓ ✓
Too close to base-line

Decision - Read with anticipatory movement of 1) staying in base position, 2) moving-back to defend, or 3) moving-in to attack expected short ball.



✓ ✓ ✓
Good to move back off serve. Anticipate.

Cover - Respond with quick split-step preparation in opponent's target area as opponent strikes the ball, then move to cover where ball sent.

✓ X
X
Remember to jump as see opponent's shot

✓ ✓
✓
Lot better. Looked quicker.

Adjust - React to ball with small push-off movements to set-up to execute shot in the hitting zone.

X X
✓ X
Work on little steps, hitting ball high – late

✓ ✓ ✓
Nice footwork

Skill - Sending the ball efficiently into the court to the appropriate target area striking the ball in the hitting zone and setting up for recovery.

✓ ✓
✓

✓ ✓
✓ X

X ✓ ✓
✓

✓ ✓
✓

on adjusting movements to react to the ball as it crosses the net in order to strike a falling ball. There was a marked improvement after this feedback with the adjustment movements building on the other movements. The key focus in this process is to get a general record of how the player is moving and to value the off-the-ball movements within the game performance.

Conclusion

This paper describes how a TGfU approach can lay the foundation for teaching net/wall games like tennis with assessment methods designed to maximize student's ability to read the game. In my experience such an approach can allow every student to experience the joy of a well played game that they will return to again and again.

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