PBIA Instructor
Lesson Plan Guidelines

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with contributions from the PBIA Instructors Committee
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Introduction

This document is provided for PBIA Instructors. This is a guideline to help you assemble lessons for individuals and classes. You can create a customized lesson program for the teaching situation. By selecting various skills to be taught from the checklist, you can easily prepare material to fit the student skills & knowledge, the available time, and the venue (pool hall, home table, etc.).

It’s very important to make sure that you do not provide instructions that are beyond the student’s abilities for perform. For example, if you give a “Cue Ball Draw” exercise to a new player, set the difficulty factor to start the exercise well within the abilities and then let them push the edges of their competence.

There are two major sections – the Skills & Knowledge Checklist and the Drills & Exercises section.

The Skills & Knowledge Checklist contains a series of sections covering various aspects of playing. Each item can be taught at different levels. Generally, each item included in a lesson will involve an explanation, demonstration and practice at the table using drills from the Drills & Exercises section or others that you create or adopt from other sources.

The Drills & Exercise section provides a series of examples to improve a student’s skills. The drills are usually progressive. Most show a progression to make the exercise more and more difficult (requiring greater skills). Modify the drill’s starting point according to the student’s skills.

Additional information and training suggestions are provided at the end of the document. Make sure to closely read the details and incorporate useful information into your personal training style and philosophy.

Customization Guidelines

Copy and paste into a new document the details you need for the student. This material can also be used to create a handout, student’s personal evaluation form, custom training assignments, individual progress forms for your records, etc.

This list contains quite a few areas useful instruction, but is not complete. Most of the time, your students will be beginners and intermediate players. With this checklist and drills, you can tailor lessons to closely fit their needs. For advanced players, feel free to adapt and modify these guidelines.

A major factor affecting the success of your lessons is knowledge of the skill level of the participating player(s). Always assess a player’s skills, including fundamentals, cue ball control, and level of playing skills. This information is used to develop your lesson program.
After you select a Lesson Program from this list – copy the material into a new document and save it with the student’s name. It will contain the material and exercises that were covered in the lesson.

After the lesson, attach the document to a “Thank You” email to the student. Make sure that you do follow-up emails to your students asking them how they are progressing. This can pay-off in future lessons.

**Pool Terminology**

There are several online Pool Terminology dictionaries available. These may become outdated or unavailable in the future, so a search of the term “billiard definitions”, “billiard terms”, or similar can easily find useful results in the first couple pages of search results.

http://www.generationpool.com/billiards-dictionary.html
http://billiards.colostate.edu/resources/glossary.pdf
http://www.billiardworld.com/glossary.html
https://www.billiards.com/article/glossary-of-billiard-terms
http://billiards.about.com/od/poolglossary/

**Acknowledgements**


Wei Chao created the software that allowed these table layout graphics to be generated. His layout software, forum, and blog can all be reached at: [http://pool.bz/](http://pool.bz/)

Some of the drills and exercises are from books written by Allan P. Sand.
Skills & Knowledge Checklist

Assemble lesson material according to what you know about your student. Include a description, demonstration, and practice.

Playing Cue

☐ Selection – How to select the best house playing cue
☐ Tip Care – How to recognize when a tip needs maintenance
☐ Tools – Present several tools used to maintain a cue
☐ Chalk – How to apply chalk, importance of “personal chalk”.

Body Fundamentals

☐ Stance Triangle – Triangle positioning of feet and hands.
☐ Body Alignment – Efficient alignment of body parts (arms, head, etc.)
☐ Hand Bridges – Various hand bridges for use on table, rail, over ball, etc.
☐ Stroke – Mechanics of a stroke (practice and follow-through)
☐ Stroke Routine – Details to prepare and shoot a shot.

Aiming

☐ Techniques (ghost ball, fractional, others)
☐ Aiming Line (aligning the cue stick) – describe, demo, practice

Playing Fundamentals

☐ Shot Selection – Table analysis and shot selection.
☐ Pre-shot routine – Sequence of actions before the shot.
☐ Post-shot routine – Sequence of actions after the shot.
☐ Awkward shooting – How to position and stabilize the body for awkward shots.
☐ Mechanical bridge – When and how to use.

Cue Ball Basics

☐ Clock system – Explain the clock system.
“English” – Effects of 1/2, 1, 1-1/2, 2 tips out from center – at different speeds. See Appendix D.

Tip/Ball contact overview – importance of precision and dangers of ignorance

Squirt and Swerve – Cue ball reaction to “side spin” (english).

Cue Ball Control

- Speed Control – Control the stroke speed
- Stop Shot – How to make the cue ball stop dead on a straight shot – at various speeds
- Follow Shot – How to follow (under control)
- Draw Shot – How to draw (under control)

Cue Ball/Object Ball

- Tangent Line – How to use (cue ball predictability)
- Thirty Degree Rule – How to use (cue ball predictability).
- Fractional Hits – cue ball and object ball paths on 3/4, 1/2, 1/4, thin

Breaking

- Before breaking – actions to take (cue changes, rack inspection)
- Break Stance – difference from regular stance
- Break Speed – effects on ball control
- Break from locations – effects on ball spread

Banks

- Ghost table technique (long, short) – how to use.

Kicks

- 1 Rail – “X” technique, “divide-by-2” technique, ghost table, etc.
- 2 Rail - cue parallel technique
- “Big in the corner”, “Big on the Rail” – how to use.
Position Basics

- “Theory” of Shape – playing patterns, CB target zones
- Cue Ball Path Predictions – CB spins, speeds

Defense/Safeties

- Offense/Defense Shot Decision Matrix – how/when to go offense, play defense
- Types of Safety Shots – describe hidden ball, distance, bad angle, etc.
- Safety Choices/Options w/examples
- 9 Ball Safety Tactics – Options specific to the game (can be a complete standalone lesson).
- 8 Ball Safety Tactics – Options specific to the game (can be a complete standalone lesson).

Practicing

- Purpose – describe practice routines, how to create the habit,
- Chaos & Comfort Zones – how to know where these are and use in a game – for self (and opponent).
- Practice Routines – selection of drills. Provide resources.

*See the Drills & Exercises section for table layouts*
Drills & Exercises

Create a lesson plan in another document. Copy and paste the drills you will cover. After the lesson is done, email the document to your student. Your lesson plan should also include the demonstrations that will be presented during the lesson. You can also send follow-up email and ask how the student is progressing. (A good follow-up tactic that will encourage individuals to come back for more lessons.)

You can also create your own drills with the Wei table ([http://pool.bz](http://pool.bz)). Registration is free and required. On the right hand side of the page are CueTable software links, plus instructions on how to use it. In your new document, include the “Acknowledgement” from the introduction.

The internet has lots of interesting drills. There are a number of published books that include useful exercises. Start with your personal library and also check online bookstores.

Incorporating progressive drills into your lessons has several advantages. A progressive drill has a starting point that is well within the student’s abilities. Shifting a factor (cue ball or object ball) can make the shot a little harder to accomplish. Further shifting will make the shot more and more difficult – until it is well beyond the student’s abilities.

Progressive drills allow the student to discover the dividing line between shots that are within the shooter’s comfort zone (consistent success) and chaos zone (inconsistent results). It gives the student a goal to extend their comfort zones, a way to clearly recognize and document their specific skill level improvements over time and thereby motivation to learn, practice and improve their playing skills.

**Drill Scoring**

Some players do well when the drill is divided into a scoring test. Results from individual innings (or sessions) are scored.

A simple pocketing progressive drill can be scored according to the shot difficulty. A number of balls drill can be scored according to the balls pocketed.

There is a drill scoring example at the end of the Drills & Exercises section.
Pocketing Object Balls

Start with ball in hand. Pocket the three balls – any sequence, in order, reverse order.

Progression, move the OBs out from the pocket. Add another OB along each side for a total of five OBs.
**Progressive Angles**

Make the OB in the side pocket. Start from center table. On success move the CB to increase the angle on the OB.

Progression: move OB away from side pocket. Shift the grey line closer or further away from center line.
Fundamentals

No-Hands Drill

To pocket into far corner pocket, ride cue on the rail without a hand bridge to guide the stick. Standard stance, but bridge hand is resting to the side of the stick. This is a regular shot but with the stick strokes controlled by the back hand.

Ball must roll true (vertical) without side spin. Stroke MUST follow through at least 6 inches. Watch the cue tip and the ball roll after the stroke – these reveal many sins.

Progression: Slow through fast stroke speeds. Place an object ball close to the pocket, and then move away. Top level: With OB on center string, CB manually aligned, shoot to pocket both balls into the far corner pocket (again, from slow to fast speeds).
Double Kiss Drill

Start with CB close to OB (1/2 inch from rail). Shoot straight at OB.

Purpose: Make the CB consistently come straight back. Success twice in a row, move CB back.

Hint: Consistent failure usually caused by bad fundamentals.

Progression: Move CB further away from OB. Switch to long table.
Cue Ball Control

Speed Control

Purpose: consistently place the ball into a half diamond target field.

Soft Speeds

Medium Speeds
Stun and Follow Shots

Note: “Stun” shot means that the cue ball will contact the object ball without any roll or spin, i.e., at contact the cue ball has no rotational energy.

Use a setup similar to this.

Purpose: For stun drills: allow a certain amount of CB “drift” according to the student’s abilities.
For follow drills: set the CB target. Shift the OB location away from pocket for longer follow.

Progression: On success, move CB further away from OB.
Stun and the Tangent Line

Setup the cue ball and object ball as shown. Shoot the object ball with stun.

Purpose: Introduce and illustrate the tangent line path. The cue ball will travel the ‘T’ path into the corner pocket.

Progression: Move the cue ball further away. *This requires the shot to start with reverse spin and then slide into the object ball without roll.*

Also introduce and demonstrate the Thumb/Index finger technique for predicting the approximate cue ball path.
Another Stun Exercise

Setup the balls as shown.

Purpose: Calculate and shoot along the correct tangent line to consistently hit the target object ball. Use 2-finger shortcut.

Progression: Move cue ball to the left and right sides for different angles. Increase the distance from cue ball to first object ball.
Draw Shots

Purpose: Draw the CB back to stop at/near a specific target. Table layout shows three targets.

Use donuts for CB & OB placements, with a third donut to mark the target for the CB to stop.

Progression: increase the target distance. Increase the CB to OB distance. For advanced players use the long table.
Position Drills

These help students learn to shoot and play position using appropriate CB speeds and how to get into the right shooting zones for the next shot.

3 Ball Runout

Place three OBs in a designated area (see layout). Start with CB in hand (anywhere on the table. OBs can only go into the corner pockets.

Purpose: Select the first OB to pocket and also call the next OB and its pocket. Shoot and get shape on the second OB. Make the second OB and get shape on the third OB. Any miss or shape mistake fails the drill and all balls must be repositioned.

Progression levels: Expand the shooting zone out to half table (shooting into the same corner pockets. Add another ball and restart from the 1 Diamond and 2 Diamond zone
6 Ball Pocket Drill

Place OBs about 5 inches out from each pocket.

Purpose: Begin with CB in hand. Select the target OB and call the next OB. Shoot the shot and repeat until all balls are pocketed. Any miss or shape mistake fails the drill and all balls must be repositioned.

Progressions: Specify the next target OB and the table location (4 D square target area) for CB to stop. Move the OBs away from the pocket in 3-4 inch increments.
Tangent Line Caroms

Purpose: Carom off one OB and contact a second OB. Use donuts for ball positions.

Progression: Move CB along the grey lines.

Drill Scoring Example

Playing Position

1. Position the 1 ball, 2, ball and 8 ball on the foot spot as shown.

2. Break from behind the head string.

3. Start with ball in hand anywhere on the table.

4. Pocket balls in order (call pocket).

5. Inning ends with all balls down, a foul, or a miss. ‘Runout’ = all balls pocketed without a foul miss

6. Mark the score for the inning.

7. Repeat for 10 innings to get a score for the practice session.
This gives you a quantifiable means of tracking the student's improvement.

**Progressive Modifications**

Accept the table as it lies after the break (no ball in hand).

On consistent success with 3 balls, add a fourth ball to the exercise.

---

Scoring Example (3 ball set)

<table>
<thead>
<tr>
<th>Drill</th>
<th>Level</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Balls Made During an Inning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Total balls: 15  
RUNOUT Percentage: 20%  
Session Avg: 1.5
Appendix A - Coaching for Advanced Students

All drills can be made much more difficult to play when you add in the following speed/spin requirements. This table (from the book “Drills & Exercises”) provides useful training assignments for advanced players. Even simple drills become very difficult when you add requirements to practice and master different speeds and spins.

**CB Speed/Spin Matrix**

The following table is the matrix of shots to be applied to every shot for every drill and exercise. Some of the slow draw & draw/side spin shots cannot be done because the table cloth wears away at the spin. However, every possibility is shown in this table.

<table>
<thead>
<tr>
<th>Slow CB speed</th>
<th>Stun</th>
<th>12:00 (1/2 tip)</th>
<th>6:00* (1/2 tip)</th>
<th>10:30 (1/2 tip)</th>
<th>1:30 (1/2 tip)</th>
<th>7:30** (1/2 tip)</th>
<th>4:30** (1/2 tip)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12:00 (1 tip)</td>
<td>6:00* (1 tip)</td>
<td>10:30 (1 tip)</td>
<td>1:30 (1 tip)</td>
<td>7:30** (1 tip)</td>
<td>4:30** (1 tip)</td>
<td></td>
</tr>
<tr>
<td>Medium CB speed</td>
<td>Stun</td>
<td>12:00 (1/2 tip)</td>
<td>6:00 (1/2 tip)</td>
<td>10:30 (1/2 tip)</td>
<td>1:30 (1/2 tip)</td>
<td>7:30** (1/2 tip)</td>
<td>4:30** (1/2 tip)</td>
</tr>
<tr>
<td></td>
<td>12:00 (1 tip)</td>
<td>6:00 (1 tip)</td>
<td>10:30 (1 tip)</td>
<td>1:30 (1 tip)</td>
<td>7:30** (1 tip)</td>
<td>4:30** (1 tip)</td>
<td></td>
</tr>
<tr>
<td>Fast CB speed</td>
<td>Stun</td>
<td>12:00 (1/2 tip)</td>
<td>6:00 (1/2 tip)</td>
<td>10:30 (1/2 tip)</td>
<td>1:30 (1/2 tip)</td>
<td>7:30 (1/2 tip)</td>
<td>4:30 (1/2 tip)</td>
</tr>
<tr>
<td></td>
<td>12:00 (1 tip)</td>
<td>6:00 (1 tip)</td>
<td>10:30 (1 tip)</td>
<td>1:30 (1 tip)</td>
<td>7:30 (1 tip)</td>
<td>4:30 (1 tip)</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
* Slow speed at 6:00 (reverse spin) is only useful with the CB is close to the OB. Otherwise the cloth will wear off the spin and the CB will begin rolling forward.
** At slow & medium speeds, 7:30 and 4:30 speeds are unpredictable. Not recommended
# Appendix B - Lesson Plan Checklist

(student)____________________________________________ Date____________

Other Information: ______________________________________________________

<table>
<thead>
<tr>
<th>Playing Cue</th>
<th>Cue Ball/Object Ball</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Selection</td>
<td>□ Tangent Line</td>
</tr>
<tr>
<td>□ Tip Care</td>
<td>□ Thirty Degree Rule</td>
</tr>
<tr>
<td>□ Cue Tools</td>
<td>□ Fractional Hits</td>
</tr>
<tr>
<td>□ Chalking</td>
<td></td>
</tr>
<tr>
<td><strong>Body Fundamentals</strong></td>
<td><strong>Breaking</strong></td>
</tr>
<tr>
<td>□ Stance Triangle</td>
<td>□ Before breaking</td>
</tr>
<tr>
<td>□ Body Alignment</td>
<td>□ Break Stance</td>
</tr>
<tr>
<td>□ Hand Bridges</td>
<td>□ Break Speed</td>
</tr>
<tr>
<td>□ Stroke Mechanics</td>
<td>□ Break from locations</td>
</tr>
<tr>
<td>□ Stroke Routine</td>
<td></td>
</tr>
<tr>
<td><strong>Aiming</strong></td>
<td><strong>Banks</strong></td>
</tr>
<tr>
<td>□ Various Techniques</td>
<td>□ Ghost table technique</td>
</tr>
<tr>
<td>□ Aiming Line</td>
<td></td>
</tr>
<tr>
<td><strong>Playing Fundamentals</strong></td>
<td><strong>Kicks</strong></td>
</tr>
<tr>
<td>□ Shot Selection</td>
<td>□ 1 Rail</td>
</tr>
<tr>
<td>□ Pre-shot routine</td>
<td>□ 2 Rail</td>
</tr>
<tr>
<td>□ Post-shot routine</td>
<td>□ “Big in the corner”, “Big on the Rail”</td>
</tr>
<tr>
<td>□ Awkward shooting</td>
<td></td>
</tr>
<tr>
<td>□ Mechanical bridge</td>
<td><strong>Position Basics</strong></td>
</tr>
<tr>
<td><strong>Cue Ball Basics</strong></td>
<td>□ “Theory” of Shape</td>
</tr>
<tr>
<td>□ Clock system</td>
<td>□ Cue Ball Path Predictions</td>
</tr>
<tr>
<td>□ “English”</td>
<td></td>
</tr>
<tr>
<td>□ Tip/Ball contact overview</td>
<td><strong>Defense/Safeties</strong></td>
</tr>
<tr>
<td>□ Squirt and Swerve</td>
<td>□ Offense/Defense Shot Decision Matrix</td>
</tr>
<tr>
<td><strong>Cue Ball Control</strong></td>
<td>□ Types of Safety Shots</td>
</tr>
<tr>
<td>□ Speed Control</td>
<td>□ Safety Choices/Options</td>
</tr>
<tr>
<td>□ Stop Shot</td>
<td>□ 9 Ball Safety Tactics</td>
</tr>
<tr>
<td>□ Follow Shot</td>
<td>□ 8 Ball Safety Tactics</td>
</tr>
<tr>
<td>□ Draw Shot</td>
<td><strong>Practicing</strong></td>
</tr>
<tr>
<td></td>
<td>□ Purpose</td>
</tr>
<tr>
<td></td>
<td>□ Chaos &amp; Comfort Zones</td>
</tr>
<tr>
<td></td>
<td>□ Practice Routines (list drills).</td>
</tr>
</tbody>
</table>
Appendix C - Training Basics

Planning your training sessions is a major factor in the success of your students. As an instructor, you will develop a variety of standard plans for your classes and private lessons. Some will be very detailed while others only need an outline and sequence. Consider many factors – such as the student’s skill and knowledge level, training goals, and how you assess their skill progression. Following are some key considerations that help develop effective plans:

**Identify the major goal for the session**

What skill and knowledge will the student acquire during the lesson? Specifically state the actions and outcome that demonstrating the intended skill mastery. For example, ‘The student will execute a successful stop shot with object ball – with separations of 1, 2 and 3 diamonds’.

**Identify and improve sub-skills and knowledge needed to achieve the session goal**

List the specific component skills and knowledge that the student must develop to acquire a specific skill (i.e., controlled cue tip to cue ball contact points; know some of the effects of tip contact point and stroke speed). Break complex skills up into their component parts. Your lesson plan has to include developing these component sub-skills.

**Assess the student’s current skill and knowledge set**

Skill acquisition is an ‘additive’ process. In order to produce one outcome, several supporting skills must be at least partially under the student’s control. For example, to stun the cue ball on contact with the object ball, the players must have some precision on where the cue tip hits the cue ball (on a vertical axis, and full hit on the object ball).

**Be flexible**

Modify your lesson plan during the session - based on the student’s performance, progress and feedback during the session.

**Encourage the player to actively participate in the session**

Encourage player questions. Solicit their observations and opinions. Provide opportunities for them to experiment and understand how and why the lesson activities work.

**Encourage success!**

Create activities that allow the student to self-demonstrate each lesson’s purpose/goal.
Appendix D - Tips of English

The diagram below illustrates cue tip – cue ball contact points often referred to as ‘tips of English or spin’.

The illustration is drawn to scale (1:1) using these dimensions and references:

- The outer circle represents the diameter of the cue ball - 2 ¼”.
- The large inner gold circle represents the area of the ball that the cue tip can contact the cue ball without miscuing. The diameter of this circle is 1 1/8”.
- The smaller circles illustrate four tip positions on the horizontal and vertical axis of the cue ball. Each circle represents a tip position based upon a 13 mm tip diameter.
- The smallest blue circles illustrate the approximate area of contact between the cue tip and cue ball for the specific tip position.

(Graphic courtesy of Tom Simpson)
Appendix E - Blank Table Layouts