

Lesson 10: Using Technology and Data in Coaching

EBCS Level 2 CPD – Advanced Coaching

Learning Objectives (for the coach)

By the end of this module, you will be able to:

- Understand how technology can support bowls coaching.
- Use video analysis, simple statistics, and apps to track performance.
- Apply data such as grouping, MAE, and shot success rates to measure progress.
- Integrate analysis tools without overwhelming players.
- Promote ethical, inclusive, and practical use of technology in coaching.

Background (why this matters)

Technology and data provide objective feedback that complements traditional observation. Video allows players to see what coaches describe, while data quantifies progress and highlights areas to improve. Effective use of technology should:

- Reinforce learning by making the technique visible.
- Provide evidence of improvement through measurable results.
- Support decision-making with tactical insights.
- Encourage player ownership of development.
- Stay simple, inclusive, and affordable to ensure access for all.

Practical Activities

Example Tools and Methods:

- Smartphone/Tablet Video: Record deliveries for slow-motion playback to analyse stance, swing, and release.
- Video Apps (e.g., Coach's Eye, Hudl): Add drawings, comparisons, and feedback directly onto clips.
- Grouping/MAE Tracking: Use Excel, Google Sheets, or simple apps to calculate average error and monitor trends.
- Shot Success Logs: Track percentages of successful draws, conversions, or positional shots.
- Wearable Devices: Explore bowls-specific sensors or general fitness trackers for movement and rhythm.
- Performance Dashboards: Create simple spreadsheets or charts to visualise improvement over time.

Sample Session Activities:

- Video Feedback Drill: Record 6 bowls, replay with the player, and agree on 1 improvement focus.



- Grouping Analysis: Measure the spread of 12 bowls and record results for comparison next week.
- Data Challenge: Track draw accuracy during practice game; calculate % inside target zone.
- Self-Logging Exercise: Players keep a weekly record of practice hours, scores, and key reflections.

Questioning Prompts

- 'What did you notice in the video that you couldn't feel in delivery?'
- 'What does the data show about your progress this week?'
- 'Which metric matters most for your improvement right now?'
- 'How can technology help your self-coaching between sessions?'
- 'What's the simplest way you can track your own development?'

Coach Notes (ethics, inclusivity, safety)

- Always get consent before recording video or collecting data.
- Use accessible, affordable tools to avoid excluding players.
- Keep analysis simple—avoid overloading players with stats.
- Balance technology with human feedback—tech supports but doesn't replace coaching.
- Respect privacy when storing or sharing performance data.

Reflection (self + peer)

Coach self-reflection:

- Did I use technology to simplify or complicate learning?
- Did players understand and benefit from the metrics used?
- How did I balance objective data with subjective encouragement?
- What changes will I make for the next session?

Peer feedback:

- 'I noticed you applied technology by... (specific). This improved learning when... (evidence). You could also try... (suggestion).'

Player homework:

- Record one short video of delivery and self-analyse.
- Track grouping or MAE once per week.
- Write down one insight gained from technology/data each week.

Outcomes (what you should achieve)

- Ability to integrate technology and data into bowls coaching.
- Confidence using video, logs, and metrics to support feedback.
- Skill in simplifying analysis for player benefit.

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- Promote inclusivity and ethical use of tech in training.
- Encourage evidence-based player development.

Appendix A

Tools & Methods: Smartphone/Tablet Video (Slow-Motion Delivery Analysis)

Objective:

To improve self-awareness and technique by recording deliveries for slow-motion playback, highlighting stance, swing, timing, and release.

Setup:

1. Use a **smartphone or tablet** with a good camera (preferably one that supports slow-motion capture).
2. Position the device securely on a **tripod** or stable surface for a clear view.
3. Choose one or more camera angles:
 - **Side view** – shows stance, step, swing arc, and follow-through.
 - **Front/rear view** – shows alignment, swing plane, and body balance.
 - **Overhead (if possible)** – shows line and step direction.
4. Prepare a few bowls for the player to deliver at a standard jack length.

Method:

1. Record the player delivering 4–6 bowls from chosen angles.
2. Play back the footage immediately with the player, using **slow-motion or frame-by-frame review**.
3. Discuss technical elements visible on the video:
 - Was the stance stable and aligned?
 - Did the arm swing stay on a straight plane?
 - Was the release smooth or bumpy?
 - Did body weight transfer correctly through the step?
4. Compare successive deliveries to highlight consistency or variability.
5. Allow the player to **self-commentate** on what they see, then add coaching input.

Coaching Points:

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- Encourage players to *observe, not judge themselves harshly*. The video is for improvement, not criticism.
- Slow-motion is especially powerful for identifying **release errors** and **swing path drift**.
- Pair with a corrective drill (e.g., **Rail-Track Drill** or **Release Gate Drill**) for immediate adjustment.
- Use positive reinforcement: highlight one thing done well alongside one improvement point.

Progression:

- Record sessions over time to track progress (before vs after corrective work).
- Use video comparison between players or against model examples.
- Encourage players to keep clips on their devices as a **self-reflection tool** for independent practice.
- Introduce **voice-over feedback**: the coach records commentary over the clip.

Outcome:

- Provides clear, visual feedback for technical improvement.
- Improves player self-awareness of stance, swing, and release.
- Helps track progress objectively over weeks/months.
- Builds stronger coach–player collaboration by making corrections visible, not abstract.

Tools & Methods: Video Apps (Coach's Eye, Hudl, OnForm, etc.)

Objective:

To provide enhanced technical feedback by using specialist video apps that allow drawing lines, slow-motion replay, comparisons, and voice notes directly onto delivery clips.

Setup:

1. Download and set up a coaching app such as **Coach's Eye**, **Hudl Technique**, or **OnForm** on a smartphone or tablet.
2. Mount the device on a **tripod** for steady recording.
3. Choose recording angles (side, front, or rear view).
4. Record a set of deliveries (e.g., 4–6 bowls per angle).

Method:

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1. Import recorded clips into the video app.
2. Use app tools to **analyse and annotate**:
 - Draw straight lines to check swing plane and step alignment.
 - Use circles/arrows to highlight the release point or body posture.
 - Slow down or pause at release for frame-by-frame analysis.
3. Compare:
 - Side-by-side clips (player's current vs improved delivery, or vs a model example).
 - Before-and-after corrections during the same session.
4. Add **voice commentary or text notes** directly on the clip for player reference.
5. Share the annotated video with the player (many apps allow instant sharing).

Coaching Points:

- Keep analysis **simple and visual** — avoid overloading with too many lines/arrows.
- Encourage the player to self-analyse before giving coach input: *"What do you see here?"*
- Focus on one or two key improvements at a time (e.g., smoother follow-through, steadier stance).
- Highlight positives as well as corrections, to reinforce confidence.

Progression:

- Build a **video library** for each player to track development across the season.
- Compare under different conditions (indoor vs outdoor, short vs long ends).
- Encourage players to film themselves during personal practice and share clips with the coach for remote feedback.
- Introduce peer review: teammates watch each other's clips and discuss observations.

Outcome:

- Provides precise, visual technical feedback.
- Helps players *see and feel* the connection between body movement and delivery outcome.
- Tracks progress with clear "before vs after" evidence.
- Enhances engagement and learning through interactive analysis.



Tools & Methods: Grouping / MAE Tracking (Measuring Consistency with Data)

Objective:

To provide players with measurable feedback on their consistency by tracking distances from the jack, calculating **Mean Absolute Error (MAE)**, and monitoring progress over time using spreadsheets or apps.

Setup:

1. Choose a digital tool: **Excel, Google Sheets, or a simple statistics app.**
2. Mark scoring zones around the jack (e.g., 0.5m, 1m, 1.5m) or use a tape measure.
3. Player delivers a set of bowls (e.g., 12 bowls across 3 ends).
4. Record the **distance from Jack** for each bowl (e.g., 0.35m, 0.80m, 1.25m).

Method:

1. Enter recorded distances into Excel/Google Sheets.
2. Calculate **Mean Absolute Error (MAE)**:
 - Formula = (Sum of all distances) ÷ (Number of bowls).
 - Example: $(0.35 + 0.80 + 1.25 + \dots) \div 12 = \text{MAE}$.
3. Display data:
 - Create a **trend chart** showing MAE over time (weekly or monthly).
 - Optionally record by hand (line error vs length error) to spot patterns.
4. Review with the player: Are errors reducing? Is grouping tighter?

Coaching Points:

- Emphasise that the aim is **consistency**, not just one good bowl.
- Use MAE to highlight progress objectively — “Your average error dropped from 1.1m to 0.7m.”
- Encourage players to focus on repeatable rhythm, not chasing numbers.
- Use data to spot whether errors are systematic (always short, always narrow) or random.

Progression:

- Track performance at **different jack lengths** (short, medium, long).
- Compare forehand vs backhand results.
- Record data during both **practice and match play** for realism.

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- Encourage players to keep personal MAE logs across the season.

Outcome:

- Provides an **objective, numerical measure of improvement**.
- Motivates players by showing progress over time.
- Helps coaches design tailored corrective drills (e.g., Release Gate if line error, Rhythm Exercise if length error).
- Bridges' technical and mental coaching by making consistency measurable.

Tools & Methods: Shot Success Logs (Tracking Tactical Execution Percentages)

Objective:

To measure and improve consistency in delivering different shot types (draws, conversions, positional, cover) by logging attempts and calculating success percentages.

Setup:

1. Create a simple log sheet (paper, Excel, Google Sheets, or app).
 - Columns: Shot Type | Attempts | Successes | % Success.
2. Define **success criteria** clearly:
 - **Draw shot:** finishes within 60 cm of the jack.
 - **Positional/cover shot:** lands within 1 m of the designated zone.
 - **Conversion:** moves the target bowl or jack to advantage.
 - **Drive/weight:** removes the target bowl or clears the line.
3. Decide session structure (e.g., 10 draws, 5 positional, 5 conversions).

Method:

1. Player declares the intended shot before delivery.
2. Deliver the bowl; the coach (or peer) records success/failure.
3. Continue for a set number of attempts.
4. At the end, calculate the **success percentage**:
 - $\text{Success \%} = (\text{Number of successes} \div \text{Attempts}) \times 100$.
 - Example: 6 successful draws out of 10 = 60%.



5. Review: Which shots are most consistent? Which needs more practice?

Coaching Points:

- Stress the importance of **declaring intent first** — “This is a positional shot” — to build tactical clarity.
- Encourage honest recording: near misses don’t count as successes unless they meet criteria.
- Use the log to highlight strengths (“your draw % is excellent”) and priorities for training (“your conversion % is low”).
- Reinforce that success rates improve with repetition and focus.

Progression:

- Track across different lengths and hands.
- Compare practice vs match-play percentages.
- Add **pressure layers**: time limits, observers, and scoring competitions.
- Build **player profiles** — success rates per shot type to guide team selection and tactical planning.

Outcome:

- Creates an **objective measure** of tactical and technical skill.
- Helps players and coaches prioritise practice (e.g., “your cover shots succeed only 40% — let’s work on that”).
- Builds tactical discipline by requiring shot declaration before execution.
- Tracks progress over time, boosting confidence as percentages rise.

Tools & Methods: Wearable Devices (Sensors & Fitness Trackers for Rhythm and Movement)

Objective:

To enhance awareness of movement, rhythm, and physical consistency by using wearable devices such as motion sensors, smartwatches, or bowl-specific trackers.

Setup:

1. Choose device type:
 - **Bowls-specific sensors** (clip-on motion trackers) — some prototypes track arm swing, release angle, or speed.



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- **General fitness trackers/smartwatches** (e.g., Apple Watch, Garmin, Fitbit) — useful for timing, step rhythm, and heart rate.
 - **Mobile apps with motion sensors** — record swing tempo or balance shifts.
2. Strap device securely to wrist, arm, or body as directed.
 3. Set up a session focusing on **delivery rhythm and repeatability**.

Method:

1. The player delivers a set of bowls wearing the device.
2. Device records relevant data (examples):
 - **Swing rhythm/timing** — consistent backswing-to-release duration.
 - **Step cadence** — lead foot placement, speed and consistency.
 - **Balance/movement** — stability through delivery.
 - **Heart rate/stress response** — during high-pressure drills.
3. Review data with the player via the app dashboard or synced software.
4. Compare consistency across deliveries — e.g., Was the swing tempo steady? Did balance vary?
5. Provide feedback and link to corrective drills if needed (e.g., Four-count Rhythm Exercise).

Coaching Points:

- Stress that devices are **feedback tools**, not replacements for observation.
- Encourage players to use data as a **baseline tracker** rather than over-focusing on numbers.
- Highlight trends: “Your rhythm slowed under pressure,” or “Balance stayed stable across all ends.”
- Ask reflective questions:
 - *“Did you feel different when the rhythm changed?”*
 - *“Does the data match what you sensed?”*

Progression:

- Use wearables in **pressure drills** (e.g., Pressure Countdown, Three-in-a-row) to see if rhythm holds.
- Compare indoor vs outdoor performance — does tempo change on different greens?
- Track progress over weeks/months for rhythm consistency.

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- Combine wearable feedback with **video analysis** to connect data with visible movement.

Outcome:

- Provides objective insight into delivery rhythm, movement, and stress response.
- Helps players link physical awareness with performance consistency.
- Tracks progress over time, supporting long-term development.
- Prepares players to perform under pressure with greater self-awareness.

Tools & Methods: Performance Dashboards (Visualising Progress with Charts)

Objective:

To track and visualise player performance over time using simple spreadsheets or charts, making improvements clear and motivating, while identifying areas for development.

Setup:

1. Choose a platform: **Excel, Google Sheets, or a coaching app** with chart features.
2. Decide which performance metrics to track, e.g.:
 - **Consistency** (MAE / average grouping distance).
 - **Shot success rates** (% successful draws, conversions, cover shots).
 - **Pressure drills** (Countdown Challenge scores, Three-in-a-row attempts).
 - **Match outcomes** (scorelines, ends won, shot differential).
3. Create a dashboard layout with:
 - Tables for raw data entry.
 - **Charts/graphs** to show trends (line graphs, bar charts, pie charts).

Method:

1. After each session, log key data into the spreadsheet:
 - Example: MAE = 0.95m, Draw success = 60%, Conversion success = 40%.
2. Generate charts:
 - Line chart: MAE over time (should trend downward).
 - Bar chart: shot type success rates.
 - Pie chart: distribution of shot choices in a session.
3. Review the dashboard with the player regularly (weekly or monthly).



4. Discuss:

- What is improving steadily?
- What remains inconsistent?
- Where should training time be focused?

Coaching Points:

- Keep dashboards **simple and visual** — avoid overwhelming detail.
- Celebrate visible improvements (e.g., “Your grouping error has halved in 6 weeks”).
- Use dashboards to **guide practice design** — focus on weakest metrics.
- Ask reflective questions:
 - “What trend do you notice?”
 - “Which skill do you want to raise next?”

Progression:

- Add comparisons: forehand vs backhand, indoor vs outdoor.
- Share anonymised dashboards in group coaching to inspire competition.
- Create a **season-long dashboard** for each player.
- Link dashboard goals to specific drills (e.g., low conversion % → Conversion Challenge drill).

Outcome:

- Makes progress **visible and motivating** for players.
- Provides coaches with clear evidence of development.
- Identifies strengths and weaknesses to shape tailored training.
- Builds accountability and focus in long-term improvement plans.

Appendix B – Glossary of Coaching Terms

Video Analysis: Using video recordings to review and improve technique.

MAE – Mean Absolute Error: Average distance bowls finish from the target (ignores direction).

Performance Dashboard: A visual summary (charts/tables) showing player progress.

Self-Logging: Players record practice hours, scores, and reflections for self-awareness.

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Shot Success Rate: Percentage of attempted shots (draws, conversions, etc.) achieved successfully.

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