HITTING / PLAYER DEVELOPMENT

# My Process.

A framework for developing hitters, with the hitter driving the work and the organization supporting it.

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bayliskey.com/my-process · Revised October 30, 2026

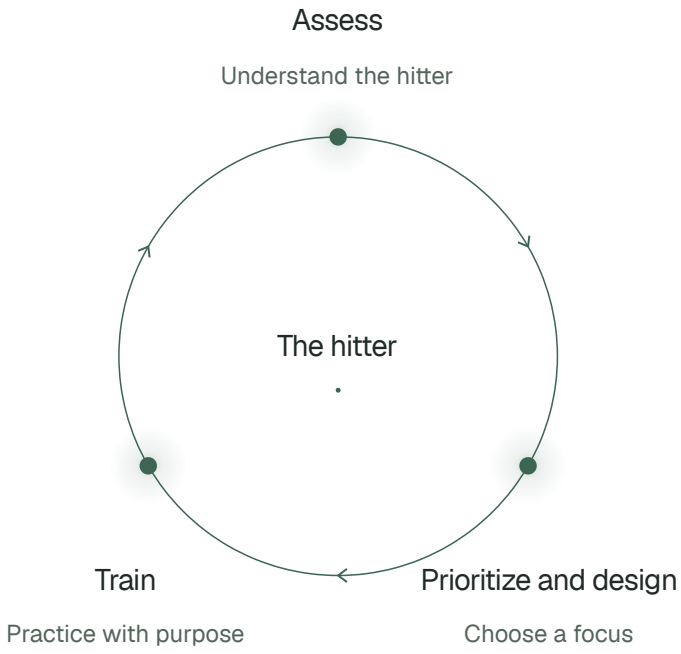
## Developing hitters for the highest level.

Developing hitters who can help the big league team gives the work its direction. Getting there starts with agreement on which abilities matter and how to evaluate them. The staff then needs a shared approach to developing those abilities. Those expectations need to make sense to the coaches and hitters doing the work every day.

The hitter has to drive that process because they are the one stepping into the batter's box. The coach helps them understand their abilities and designs training that gives them room to work through adjustments. The hitter eventually has to use those skills without someone directing every decision, so their experience and feedback need to shape the work from the start.

That makes the relationship between hitter and coach incredibly important. The hitter uses the measurements and coaching feedback to understand their process, while the coach needs to hear what the hitter felt to make sense of the result. Each brings information the other needs.

## The hitter drives the process




The loop describes connected parts of the work, with assessment happening every day as the hitter and coach discuss what they're seeing in the work and the data. Scheduled testing gives the staff a chance to look more closely at a question; it doesn't determine when the hitter and coach can learn something or make an adjustment.

Games are the most important assessment, so improvements in training have to be examined through what happens on the field. That still takes more than reading a stat line. A hitter can improve an important quality before it shows up in their statistics, just as they can produce at one level with weaknesses that better pitching will expose. The job is to understand what is developing and whether it will help them against the competition ahead.

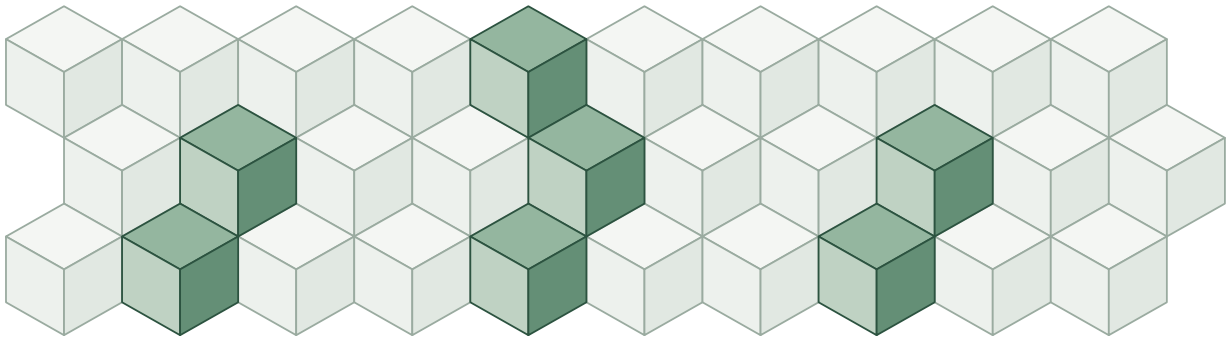
This approach draws on coaching and leadership experience and provides a starting point for building a framework with an organization.

# 01 / Establish the shared framework

## Agree on the direction.

Building the framework starts with understanding what the organization values and what its players need. The resources available help determine how that direction can be put into practice. Coaches, analysts, strength and medical staff, and development leadership bring different experience to that discussion, and the result should be a direction they can explain and work toward together.

## Agree on the building blocks.



01

### What matters

Which abilities help hitters contribute to the big league team?

02

### How it’s evaluated

What evidence shows those abilities are developing and being used in games?

03

### How it’s developed

Which principles guide assessment and training across the department?

### An agreed foundation for the department

Individual priorities and training are built within it.

That means agreeing on what is being developed and explaining why it matters. There also needs to be a clear basis for judging progress and readiness. The hitter needs to understand how those expectations apply to them, too.

## Make responsibilities clear

For that direction to be useful, responsibility for collecting and interpreting information needs to be clear. The information also has to reach the coach and hitter in a form they can use. Each person supporting the player should understand the plan well enough to see where their work fits.

Coaches need room to choose tasks and communicate in ways that make sense to their hitters, adjusting the challenge as the session develops. They also need to be able to explain why they chose that work and what they are seeing in response. Access to specialists and continuing education should help them make those decisions. Department leadership can also provide useful information and a place to talk through the work.

## Make disagreement useful

The staff improves when people can question the approach and bring forward ideas. When coaches see something differently, they need a way to work through the reasoning together before deciding how to proceed. Any agreed change then needs to reach everyone supporting the plan, including the hitter.

Mixed messages will happen, but they need to be addressed quickly. The player should understand the direction while the staff works through the disagreement.

## Keep useful information moving with the player

When a hitter is promoted or demoted, the receiving coach needs to understand the work so far and the reasoning behind it. That includes the hitter's response and any questions still being worked through. Talking with the player and previous coach gives that relationship a starting point and keeps useful work from getting lost in the move.

Visits between affiliates can build those connections before a player moves, giving coaches time to watch training together and discuss expectations at each level. Those conversations create opportunities to learn from one another.

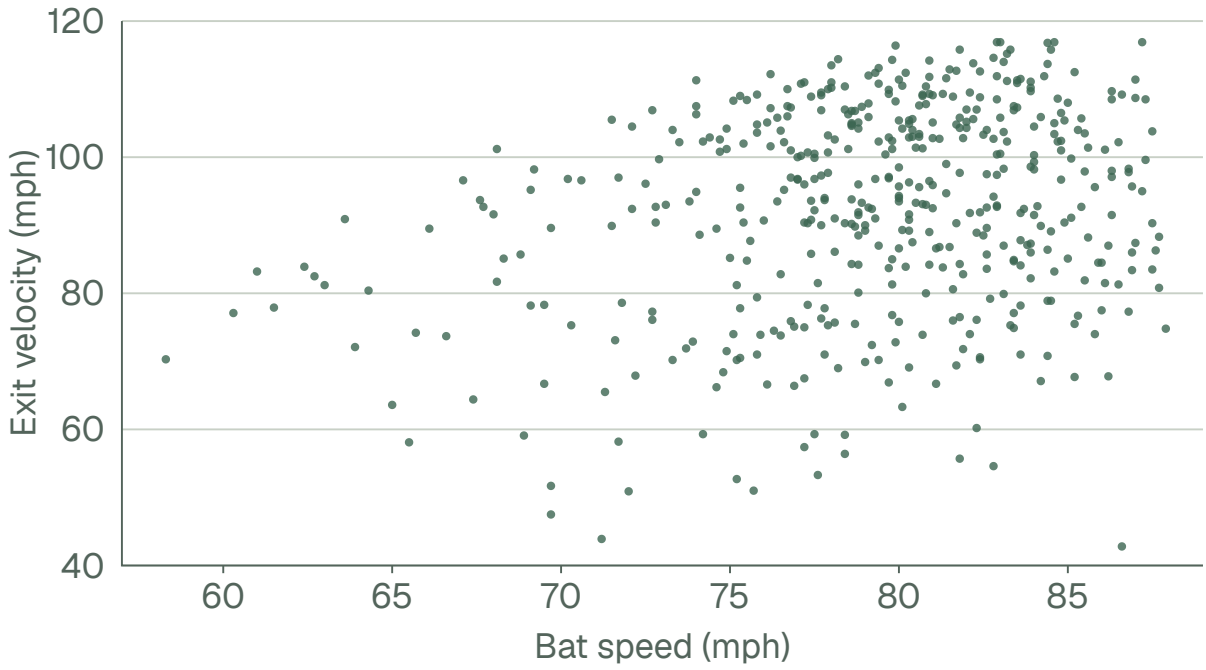
# 02 / Abilities and indicators

## Understand what helps the hitter produce.

Bat speed, bat-to-ball skills, and swing decisions provide a useful starting point for understanding a hitter. Looking at them together helps explain their performance and identify where development could make a difference. The staff then needs to agree on how those abilities will be measured and how the information will be used.

Bat speed contributes heavily to the hitter's ability to hit the ball hard. Contact quality affects how much of that speed translates into exit velocity. [1] It remains an essential part of the training as the contact challenge and pitch demands increase. How the hitter responded to the pitch and the contact they made help explain what the number means. [2]

### Bat speed and exit velocity



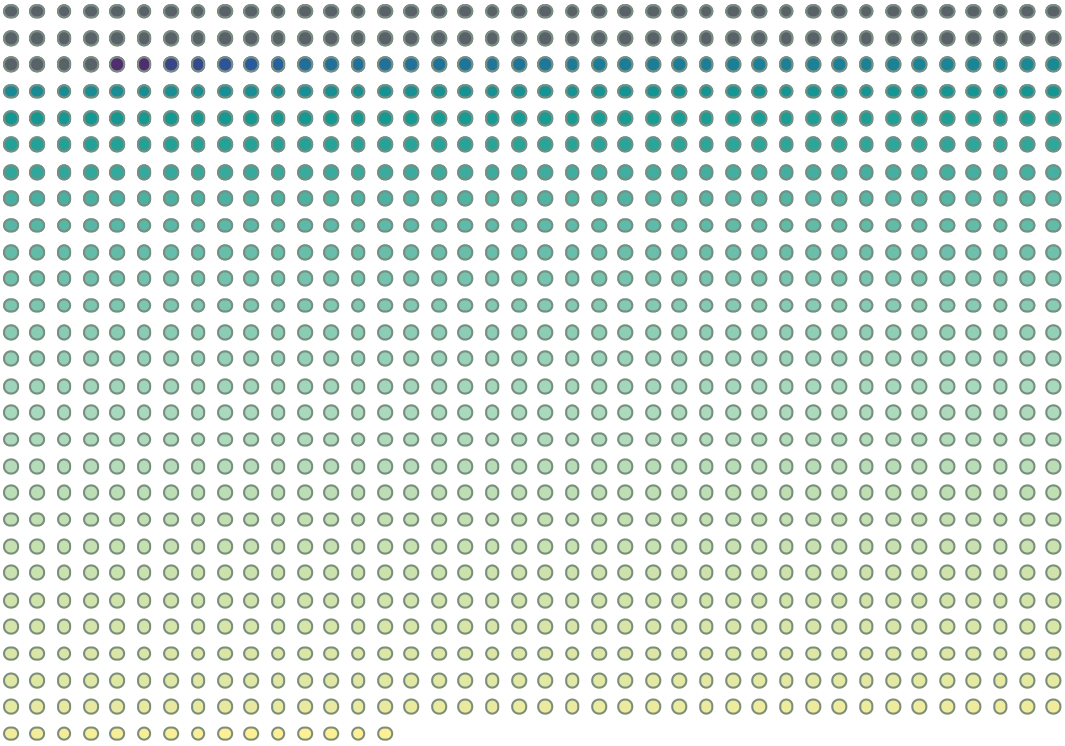

2026 regular season · MLB / Baseball Savant

Bat-to-ball skills include making contact and striking the ball well across different pitch speeds, types, and locations. Smash factor helps describe how well the hitter squared the ball up by accounting for exit velocity relative to bat speed and pitch speed. Averaging it across evaluated swings also brings misses into the picture: whiffs and foul tips count as zero, while other contact receives its calculated value. Swings without the measurements needed to score them are left out. The average can improve through fewer misses, better contact, or both.

## Smash factor

# 1.041

Average per evaluated swing · 1,095 swings



Measured contact · Smash factor




Whiffs & foul tips · 0

Smash factor = 1 + (Exit velocity – Bat speed) / (Pitch speed + Bat speed)

Each dot = one evaluated swing · 2026 regular season

MLB / Baseball Savant Graphic methods

Swing decisions should reflect the hitter's strengths and the count. Before two strikes, the goal is to find pitches they can drive rather than trying to cover every strike. With two strikes, protecting more of the zone becomes important, while avoiding pitches outside it that offer little chance of a productive swing. The right approach depends on what that hitter can do with the pitches they're seeing. [3]

## Swing decisions

### Swing rate




### Upper 1/8th exit velocity




2026 regular season · MLB / Baseball Savant Graphic methods

### Know why a measurement matters

A number is useful when the coach and hitter understand what it measures and how it helps guide the work. Turning it into a training target requires a clear connection to what the hitter needs in games, along with an understanding of how it fits with the other findings and the demands of their level.

A measurement may point toward something worth investigating without explaining the cause or telling the coach which drill to use.

The staff also needs to separate producing now, improving an ability, and being ready for the next level. Good results can hide a weakness that better pitching will expose, and an improving measurement doesn't settle readiness either. The explanation needs to connect what is changing with how it is being used in games and what that suggests about the next level.

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# 03 / Assess

### Find out what the hitter needs.

Assessment brings together game performance, developing abilities, and questions that need a closer look. The hitter helps make sense of that information throughout the process.

### Start with games

Game results become more useful when reviewed alongside the pitches the hitter is choosing, the contact they are making, and how hard they are hitting the ball. Look for where they are succeeding and where the same difficulty keeps appearing, then talk with them about what they are seeing and what they have tried. Those conversations help guide the questions taken into training.

Practice gives the hitter and coach a chance to explore those questions under conditions they can adjust. Squaring up a predictable pitch tells something different from doing it against an uncertain mix, but both can be useful when the purpose of the work and the conditions are understood.

### Choose tools that answer the question

For a detailed look at how the body moves through the swing, 3D motion capture is the preferred tool in this framework, with staff who can collect the data and make sense of it. K-Vest can provide a more limited look at how body segments move and sequence, but it doesn't replace a full motion-capture assessment. [4]

Blast Motion provides bat-tracking information, while HitTrax or Rapsodo can provide batted-ball information in the cage. Minor league stadiums use TrackMan or Hawk-Eye to track pitches and batted balls, with bat-tracking data also available at sites equipped with Hawk-Eye. At the big league level, Hawk-Eye tracks the pitches, batted balls, and bat during games. [5]

Evaluating decisions means including takes and swings that miss, using the available pitch data or charting to connect the hitter's choices with what they saw. The equipment, pitch settings, instructions, and collection method also need to be recorded, especially when comparing results across sessions or systems.

More extensive testing can be scheduled around the player's needs, training schedule, and available resources. Between those tests, the hitter and coach continue assessing through the daily work.

### Work through the findings with the hitter

The numbers help the hitter compare what they tried to do with what happened, while their feedback helps the coach understand the attempt and decide whether an adjustment is worth exploring further. A recurring miss may be clear even when its cause isn't, so the next step may be more observation or testing. Another staff member may be able to help explain it.

Assessment should leave the hitter and staff with a clearer understanding of the hitter's needs and the questions that remain. Record the useful findings and the reasons behind the decisions that follow.

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# 04 / Prioritize and design

### Decide what the work needs to accomplish.

The hitter and coach consider how the hitter is playing, what better competition will demand, and where improvement is possible. The priority should connect to game performance and be clear enough to guide the work.

## Choose the focus together

Choosing the focus means working through what is holding the hitter back and which improvement could make a meaningful difference. The information available should support that choice. Their goals and experience belong in the discussion, with the coach helping connect the findings to the organization's expectations. Both should leave understanding what is being pursued and why.

The priority gives training an emphasis while bat speed, bat-to-ball skills, and swing decisions remain connected throughout the work.

## Fit the plan to the time available

An offseason training period offers different opportunities than work during the season, when game demands and recovery affect the time available for development. How soon the hitter needs to perform matters too. The plan should make clear what is being addressed now and what remains a longer-term need, so the departments involved understand how their work supports the direction.

## Define what progress looks like

Before the work begins, establish what improvement would look like and where it needs to show up. Building an ability in practice provides one kind of evidence. Using it against tougher demands provides more, with games showing how it is helping the hitter compete. The plan should explain how progress will be interpreted along the way. Those expectations guide review alongside their feedback and the coach's judgment.

## Give training a clear purpose

The plan should leave the hitter and staff knowing the priority, why it was chosen, how progress will be checked, and what support is needed. That gives the coach a basis for building a training environment and choosing tasks that serve the hitter within the time and resources available.

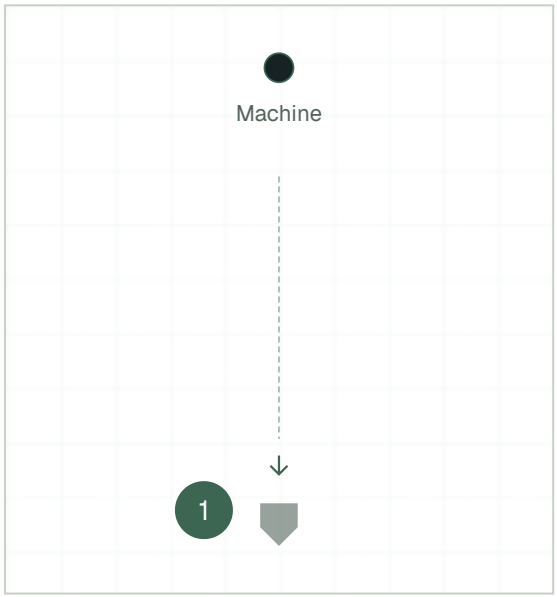
# 05 / Train

## Build an environment that supports the work.

The drill, bat, ball, pitch conditions, target, and feedback all shape the problem the hitter is trying to solve. [6] Combining them with a purpose allows a shared setup to serve hitters with different needs, which is an important part of making development work across a team.

### One environment. Different tasks.

SHARED · Machine setup




INDIVIDUAL · Bat and task

1 **Hitter 1**
Bat: Game bat
Target: 10–20° launch window through the middle of the field

2 **Hitter 2**
Bat: smash trainer
Target: Keep average exit velo above 95% of game-bat max.

3 **Hitter 3**
Bat: Long trainer
Target: 25–35° launch window to the pull side

Within this framework, the Big 3 are deliberately trained together and immediate feedback is available throughout the work. The hitter's response and game performance help evaluate those coaching choices.

## Warm up and establish the day's context

The opening preparatory rounds give the hitter time to get ready and establish where they are that day. That might involve revisiting a useful feel or exploring something new. A movement quality identified in assessment can receive attention during this work as well.

Calibration starts with what they are trying to do with the ball and how the result compares. [7] When a miss keeps showing up, the hitter and coach can explore an adjustment, using the measurements to help understand the resulting ball flight. The hitter's feedback contributes to the decision about when to add more uncertainty. The mini hack is a useful place to begin this work because it introduces pitch speed and spin while giving the hitter room to explore adjustments. The coach can change those conditions as the hitter gets ready for more demanding work.

The goal is always to continue building context with the swing, not making it feel perfect before the hitter starts competing.

## Combine the training choices

| Choice | What can change |
| --- | --- |
| Movement or drill | Stance, footwork, setup, and movement constraints. |
| Implement | Game bat, weighted bat, long trainer, smash trainer, and ball type. [8] |
| Pitch conditions | Tee, front toss, BP, mini hack, or full-distance machine. Release distance, speed, type, location, and sequence can be adjusted. |
| Task and target | Direction, launch-angle window, bat speed, or exit velocity. |
| Feedback and competition | Immediate measurements, visual targets, observation, conversation, and scoring. |

The purpose of each choice should be clear enough that the coach can watch the response and decide whether it is helping.

### Adjust individual tasks within the shared setup

Hitters can face the same pitch setup while working toward different goals. A change in bat or target can give one hitter a different challenge without requiring a separate training environment for everyone. When the shared setup can't provide what a hitter needs, the coach can change the setup or grouping.

The type of variability matters as well. The goal is to create an environment rich in feedback that gives hitters a wide range of experiences to draw from. Changing the task or pitch conditions gives the hitter opportunities to feel differences in the swing and see how those differences affect

the ball. That context can help the hitter recognize what's happening and find an adjustment, rather than depend on the coach to supply one.

The hitter and coach use that feedback to decide what comes next. The challenge should give the hitter something useful to work through, with room to explore and enough direction to keep the work connected to the development priority. [9]

## Keep intent and feedback present

After the opening preparatory rounds, bat speed is tracked throughout the session, with every swing made with intent to compress the ball through the target. That is the cue for a fast, flush strike, and the intent stays present as the contact challenge increases. Swing-by-swing feedback helps the hitter recognize changes they may not notice through feel alone. [10]

During a speed emphasis, a faster swing with poor contact can still give the hitter something to build on. They can continue exploring the feel associated with that swing while the hitter and coach review contact quality and decisions across repeated attempts.

If scoring is part of the task, the rules should reward the intended work. The coach also needs to watch how hitters pursue those points, since a way to win the game may not serve its development purpose.

## Make the session work within the available time

Time is usually the main practical limit, especially when a coach has a group of hitters to get through a session. The number of players and the staff available affect how much can be done well. Space and equipment also influence how the session is organized.

Affiliate coaches decide the drills, rounds, repetitions, and time spent on each part, keeping rounds short enough for purposeful attempts and for the group to keep moving. Injury or return-to-play needs require coordination with the appropriate staff and any necessary restrictions.

That discretion operates within the expectation that training includes variability, pitch identification, decisions, and competitive swings. [11] A hitter may need more time finding a feel at slower speeds, and the affiliate coach has room to provide it while keeping the work connected to the larger goal.

There should also be room to explore another approach when there is a reason to try it. Evaluating the response and communicating meaningful changes allows the staff to learn from that work.

### Leave room to coach

The session should make clear what each hitter is pursuing, how the setup helps, how the group moves through the available time, and which feedback guides adjustments.

As the session unfolds, the coach's observations and guidance connect with what the hitter saw, intended, and felt. That exchange helps determine whether to stay with the task or change the challenge.

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# 06 / Review and decide

### Evaluate the hitter's development and the process supporting it.

Review asks whether the player is improving, whether the intended work is happening, and whether the framework is helping. These questions come up daily and through a closer look at progress over time.

### Review the player's progress

Compare what happened with what the plan was intended to accomplish, paying attention to the conditions and whether the change is recurring. Game performance needs to be reviewed alongside the abilities supporting it and the hitter's understanding of what is happening.

Their feedback helps establish what has become more manageable, what remains difficult, and which adjustments they can recognize and use without being walked through them.

Promotion and demotion discussions should consider how the hitter is contributing now, what is developing, and whether they are ready for the next level's demands. The hitting department contributes its assessment to the organization's decision.

### Check how the work was carried out

Understanding the results starts with knowing what actually happened in training, including the setup and tasks the hitter actually experienced. Available time and changes made along the way help explain what could be delivered. A plan that couldn't be delivered raises different questions from one that was carried out well but produced little improvement.

Conversations with coaches help establish whether the priority was understood and the session provided the intended challenge. The feedback needs to be reviewed in relation to that purpose too. They also help identify practical problems and where coaches need support.

## Check the framework itself

Are the selected abilities and standards helping players as they advance? Are training improvements showing up in games? Does later performance support earlier judgments about readiness? Are important weaknesses being missed?

Successes deserve the same attention. Understanding what helped gives the staff something useful to share, even though another hitter may respond differently. Across affiliates, these patterns can reveal where coaches need more support or education. They may also point toward changes in communication or the training approach.

## Leave with a next step

The response may support continuing in the same direction, or it may suggest adjusting the task while keeping the priority. If the findings point toward a different need, revisit the priority with the hitter. When the response is still difficult to explain, the next step may be gathering more information or getting help from someone with relevant expertise.

The review should leave everyone knowing what continues or changes, why, who is responsible, and what will be checked next. The hitter helps make that decision, and the staff understands how to support it.

What is learned returns to assessment and guides the next cycle of work.

REFERENCES

# Sources and influences

This framework draws on coaching experience, published Driveline Baseball work on the Big 3 and individualized assessment, and research on practice design and skill learning. The sources below inform specific parts of the approach.

## Hitting and measurement


1. Nathan, A. M. (2003). Characterizing the performance of baseball bats. A physics explanation of how bat speed and pitch speed relate to batted-ball speed under different collision conditions. Baseball Savant's bat-tracking definitions explain how contact is evaluated relative to the exit velocity available from a swing and pitch. Measurements from different tracking systems should not be treated as interchangeable.

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2. Neiswender, K. (2019). Pairing Blast and Hittrax Data. Driveline Baseball. An example of examining swing measurements alongside batted-ball results and their context.

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3. Aucoin, D. (2019). Quantifying Swing Decisions: An Individualized Approach. Driveline Baseball. An analytical influence on evaluating decisions in relation to an individual hitter's abilities.

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## Practice and learning


6. Gray, R. (2017). Transfer of Training from Virtual to Real Baseball Batting, and Gray, R. (2018). Comparing cueing and constraints interventions for increasing launch angle in baseball batting. Experiments informing the use of adaptive practice and task constraints in batting. Their specific training conditions differ from the environments described here.

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7. Liskey, B. (2026). Making Sense of Your Miss. A coaching discussion of recognizing ball flight and adjusting toward the intended result. This describes coaching experience rather than an experimentally established training effect.

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8. DeRenne, C., Buxton, B. P., Hetzler, R. K., & Ho, K. W. (1995). Effects of Weighted Bat Implement Training on Bat Swing Velocity. A university-player study examining bat-speed changes after 12 weeks of implement training. Szymanski, D. J., DeRenne, C., & Spaniol, F. J. (2009). Contributing Factors for Increased Bat Swing Velocity. A narrative review of physical qualities and training methods studied in relation to bat speed.

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9. Guadagnoli, M. A., & Lee, T. D. (2004). Challenge point: A framework for conceptualizing the effects of various practice conditions in motor learning. A conceptual framework for considering practice difficulty in relation to the learner and the information available.

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10. Winstein, C. J., & Schmidt, R. A. (1990). Reduced frequency of knowledge of results enhances motor skill learning, and Wulf, G., Shea, C. H., & Matschiner, S. (1998). Frequent feedback enhances complex motor skill learning. Findings about feedback frequency differ across tasks. Keeping immediate feedback available throughout training is a coaching choice within this framework.

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11. Hall, K. G., Domingues, D. A., & Cavazos, R. (1994). Contextual Interference Effects with Skilled Baseball Players. A comparison of random and blocked pitch practice in junior-college hitters. Improvement was evaluated through subsequent batting-practice tests, not game production or a complete measure of swing decisions.

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## Tools and tracking

4. KinaTrax documentation describes its motion-capture system. K-Motion's K-COACH measurement descriptions explain segment sequencing and orientation measures. These describe different measurement approaches; the preference for a detailed motion-capture assessment is part of this framework.

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5. Official documentation: Blast Motion swing metrics, TrackMan game-tracking measurements, MLB's tracking overview, and Baseball Savant's minor league coverage. System capabilities and venue coverage determine which measurements are available.

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## Further reading

Kuo, S.-Y., Cheng, K. B., & Lee, Y.-C. (2021; published online 2020). Differences in Baseball Batting Movement Patterns Between Facing a Pitcher and a Pitching Machine. A small study informing the distinction between machine practice and facing a pitcher.

## Graphic methods

Smash factor. Pitch speed is release velocity. Whiffs (including blocked swinging strikes) and foul tips score zero. Other contact, including ordinary fouls, requires finite bat speed, exit velocity and release velocity, with a positive pitch-speed-plus-bat-speed denominator. Unscorable contact is excluded from both the sum and the swing count. The displayed average is the sum of scores divided by evaluated swings. Scoring misses as zero is a coaching convention, not an official MLB metric.

Heat-map locations and counts. Maps use a catcher's view and a 5 × 5 grid. Horizontally, the zone runs from –0.83 to +0.83 feet, split into thirds, with one equal-width bin on either side. Vertically, each pitch's recorded zone bottom and top define three equal-height bins, with one bin below and one above. Pitches outside this grid or without usable locations are excluded. Columns run left to right; rows run top to bottom. Counts split into fewer than two strikes and exactly two strikes.

Swing rate. Each cell is swings divided by all delivered pitches in its location/count group, including takes. Swings include swinging strikes, blocked swinging strikes, foul tips, ordinary fouls and balls in play. Automatic calls are excluded, as are missing/nonfinite locations or counts and nonpositive zone heights. No pitches in a cell means no data.

Upper 1/8th exit velocity. Within each location/count group, n is the number of balls in play with measured exit velocity. Each cell averages the hardest ceil(n/8) of those batted balls, displayed to one decimal in mph. With one to seven observations, this is the maximum; no observations means no data. There is no minimum-sample cutoff.