

The effectiveness of the 3-Point Targeting with Quiet Eye System

C.A.T.S. data reveals significant improvement in accuracy

This month, I want to review the effectiveness of the 3-Point Targeting with Quiet Eye System. Over the past 18 months, I have published this topic in separate installments. In July 07, I first introduced BTM readers to the 3-Point Targeting System. And, in March of this year, I shared with BTM readers the importance of having a “quiet eye” in targeting. Yet, the 3-point system continues to evolve, based on my experiences teaching this system, elite bowlers implementing it, modifying/adding-to it over the last two years, and new findings and research. Over the last 6 months, I have merged the Quiet Eye process more effectively into 3-Point Targeting. And, this new evolution has shown incredible results. I eagerly share these findings with readers.

I will present data to show how much immediate improvement can occur when using the advanced targeting system. In addition, I present a review of the current system in its entirety in one location. With the use of C.A.T.S. as objective data, the 3-Point Targeting with Quiet Eye System is proving to be an extremely powerful system in improving accuracy for elite bowlers.

Determining effectiveness

When bowlers come to the Kegel Training Center for lessons, we always begin by taking an initial evaluation of

every bowler using our Computer Aided Tracking System (C.A.T.S.). We are fortunate to have C.A.T.S. on every lane of the Training Center. With C.A.T.S., a coach can measure a bowler’s ability to repeat similar shots. After a bowler takes ten consecutive strike shots, C.A.T.S. measures consistency of ball speed, rev rate, target accuracy at the arrows, target accuracy at 39 feet, as well as launch angle and entry angle consistency. With the C.A.T.S. report, we can then compare the bowler to professionals in each of these performance categories. This becomes the baseline data set for a bowler’s accuracy, for comparison purposes.

After an initial C.A.T.S. assessment, I always teach clients the 3-Point Targeting with Quiet Eye System as a process to help them improve their target lines as well as something to take home on their DVD. This has proven to be a user-friendly advanced lane play system to aid them in lining up more accurately on any lane condition. This is done before any physical game changes are made. And, with C.A.T.S., I can measure the immediate improvement of a bowler’s ability to repeat shots, after learning this advanced targeting system. With access to C.A.T.S., it provides an opportunity to test the immediate effectiveness of this advanced targeting method that has evolved over several years.

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So, how effective is this system? To be frank, I was shocked at how quickly bowlers improved, including accomplished elite bowlers. A review of before and after C.A.T.S. data reveals that this targeting system is extremely effective in increasing accuracy and improving one's trajectory. This was literally, immediate improvement.

To demonstrate the power of the system, I present three bowlers' before and after C.A.T.S. reports. The first bowler is a 227 youth bowler. The second is a 220 average house bowler. The third is a female collegiate bowler who averages over 200. These examples are only a small, minor fraction of the success stories using before and after analysis.

What is most impressive is the fact that these already high performing bowlers got significantly better, immediately, with this system. "After C.A.T.S." was taken after a 20 to 30 minute presentation on learning how to implement the 3-Point Targeting (with quiet eye). As you can see from the data, the bowlers improved significantly in nearly all categories. Specifically, the bowlers' accuracy at 39 feet, as well as their launch angles, improved significantly. These figures show trajectory line improvements.

With proof of such instantaneous improvement, I want to share with readers a review of the system, as it stands today. As a coach, I feel strongly that effective systems should be enthusiastically shared with the bowling community, especially those committed to improve their games. C.A.T.S. data has revealed how powerful the system is in improving target lines.

I will discuss it in two phases:

- Planning your trajectory line
- Implementing the multiple targets with quiet eye

Readers of BTM will be familiar with some of these pieces. But, the system is evolving and changes have been made to make the system more effective.

Planning your 3-points: determining your trajectory line

The 3-point Targeting System has a planning and implementing phase. In the planning phase, you will determine an exit point, focal point, visual short target and a slide point, in that order. This plan will help you establish a straight trajectory line and increase your lane play accuracy.

- Determine the exit point of the pattern with the formula: pattern length minus 31 (PL - 31). This is

Bowler 1: Before

| Comparison Chart | | | | | | | |
|---|----------------------|---------------------|---------------------------|--------------------------|----------------------------|---------------------------|-----------|
| The data in this chart has been collected from a large sample of bowlers of all skill levels. The chart presents average values for several properties based on 10 pin average ranges. Simply compare your results to those in the chart to see where you rank. A lower ranking for a given property means that is an area of your game that needs improvement. | | | | | | | |
| Average Range | Velocity Range (mph) | Release Arrow Range | Target Point Range boards | Break Point Range boards | Launch Angle Range degrees | Entry Angle Range degrees | RPM Range |
| 139- | 1.10 | 6.8 | 10.6 | 2.01 | 3.34 | 160 | |
| 140-149 | 0.97 | 5.9 | 9.4 | 1.56 | 2.73 | 150 | |
| 150-159 | 0.85 | 4.8 | 8.8 | 1.39 | 2.51 | 140 | |
| 160-169 | 0.79 | 4.6 | 8.5 | 1.34 | 2.44 | 130 | |
| 170-179 | 0.77 | 4.1 | 7.9 | 1.30 | 2.28 | 120 | |
| 180-189 | 0.76 | 3.9 | 7.4 | 1.22 | 2.07 | 110 | |
| 190-199 | 0.75 | 3.5 | 6.6 | 1.13 | 1.83 | 100 | |
| 200-209 | 0.71 | 3.0 | 5.8 | 0.97 | 1.56 | 90 | |
| 210-219 | 0.60 | 2.5 | 5.1 | 0.92 | 1.49 | 80 | |
| 220+ | 0.58 | 2.1 | 4.2 | 0.85 | 1.27 | 70 | |
| Pro | 0.47 | 1.7 | 3.1 | 0.72 | 1.18 | 60 | |
| Your Results | 227 | 0.42 | 2.6 | 5.8 | 0.62 | 2.79 | 31 |

Bowler 1: After

| Comparison Chart | | | | | | | |
|---|----------------------|---------------------|---------------------------|--------------------------|----------------------------|---------------------------|-----------|
| The data in this chart has been collected from a large sample of bowlers of all skill levels. The chart presents average values for several properties based on 10 pin average ranges. Simply compare your results to those in the chart to see where you rank. A lower ranking for a given property means that is an area of your game that needs improvement. | | | | | | | |
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| 180-189 | 0.76 | 3.9 | 7.4 | 1.22 | 2.07 | 110 | |
| 190-199 | 0.75 | 3.5 | 6.6 | 1.13 | 1.83 | 100 | |
| 200-209 | 0.71 | 3.0 | 5.8 | 0.97 | 1.56 | 90 | |
| 210-219 | 0.60 | 2.5 | 5.1 | 0.92 | 1.49 | 80 | |
| 220+ | 0.58 | 2.1 | 4.2 | 0.85 | 1.27 | 70 | |
| Pro | 0.47 | 1.7 | 3.1 | 0.72 | 1.18 | 60 | |
| Your Results | 227 | 0.71 | 1.2 | 2.0 | 0.47 | 1.19 | 25 |

Bowler 2: Before

| Comparison Chart | | | | | | | |
|---|----------------------|---------------------|---------------------------|--------------------------|----------------------------|---------------------------|-----------|
| The data in this chart has been collected from a large sample of bowlers of all skill levels. The chart presents average values for several properties based on 10 pin average ranges. Simply compare your results to those in the chart to see where you rank. A lower ranking for a given property means that is an area of your game that needs improvement. | | | | | | | |
| Average Range | Velocity Range (mph) | Release Arrow Range | Target Point Range boards | Break Point Range boards | Launch Angle Range degrees | Entry Angle Range degrees | RPM Range |
| 139- | 1.10 | 6.8 | 10.6 | 2.01 | 3.34 | 160 | |
| 140-149 | 0.97 | 5.9 | 9.4 | 1.56 | 2.73 | 150 | |
| 150-159 | 0.85 | 4.8 | 8.8 | 1.39 | 2.51 | 140 | |
| 160-169 | 0.79 | 4.6 | 8.5 | 1.34 | 2.44 | 130 | |
| 170-179 | 0.77 | 4.1 | 7.9 | 1.30 | 2.28 | 120 | |
| 180-189 | 0.76 | 3.9 | 7.4 | 1.22 | 2.07 | 110 | |
| 190-199 | 0.75 | 3.5 | 6.6 | 1.13 | 1.83 | 100 | |
| 200-209 | 0.71 | 3.0 | 5.8 | 0.97 | 1.56 | 90 | |
| 210-219 | 0.60 | 2.5 | 5.1 | 0.92 | 1.49 | 80 | |
| 220+ | 0.58 | 2.1 | 4.2 | 0.85 | 1.27 | 70 | |
| Pro | 0.47 | 1.7 | 3.1 | 0.72 | 1.18 | 60 | |
| Your Results | 220 | 0.75 | 2.8 | 6.9 | 1.36 | 1.11 | 83 |

Bowler 2: After

| Comparison Chart | | | | | | | |
|---|----------------------|---------------------|---------------------------|--------------------------|----------------------------|---------------------------|------------|
| The data in this chart has been collected from a large sample of bowlers of all skill levels. The chart presents average values for several properties based on 10 pin average ranges. Simply compare your results to those in the chart to see where you rank. A lower ranking for a given property means that is an area of your game that needs improvement. | | | | | | | |
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| 139- | 1.10 | 6.8 | 10.6 | 2.01 | 3.34 | 160 | |
| 140-149 | 0.97 | 5.9 | 9.4 | 1.56 | 2.73 | 150 | |
| 150-159 | 0.85 | 4.8 | 8.8 | 1.39 | 2.51 | 140 | |
| 160-169 | 0.79 | 4.6 | 8.5 | 1.34 | 2.44 | 130 | |
| 170-179 | 0.77 | 4.1 | 7.9 | 1.30 | 2.28 | 120 | |
| 180-189 | 0.76 | 3.9 | 7.4 | 1.22 | 2.07 | 110 | |
| 190-199 | 0.75 | 3.5 | 6.6 | 1.13 | 1.83 | 100 | |
| 200-209 | 0.71 | 3.0 | 5.8 | 0.97 | 1.56 | 90 | |
| 210-219 | 0.60 | 2.5 | 5.1 | 0.92 | 1.49 | 80 | |
| 220+ | 0.58 | 2.1 | 4.2 | 0.85 | 1.27 | 70 | |
| Pro | 0.47 | 1.7 | 3.1 | 0.72 | 1.18 | 60 | |
| Your Results | 220 | 0.66 | 1.0 | 2.8 | 0.57 | 0.87 | 104 |

Bowler 3: Before

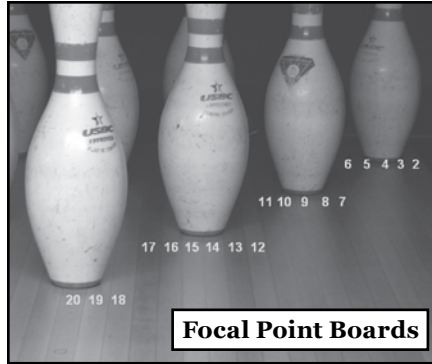
| Comparison Chart | | | | | | | |
|---|----------------------|---------------------|---------------------------|--------------------------|----------------------------|---------------------------|-----------|
| The data in this chart has been collected from a large sample of bowlers of all skill levels. The chart presents average values for several properties based on 10 pin average ranges. Simply compare your results to those in the chart to see where you rank. A lower ranking for a given property means that is an area of your game that needs improvement. | | | | | | | |
| Average Range | Velocity Range (mph) | Release Arrow Range | Target Point Range boards | Break Point Range boards | Launch Angle Range degrees | Entry Angle Range degrees | RPM Range |
| 139- | 1.10 | 6.8 | 10.6 | 2.01 | 3.34 | 160 | |
| 140-149 | 0.97 | 5.9 | 9.4 | 1.56 | 2.73 | 150 | |
| 150-159 | 0.85 | 4.8 | 8.8 | 1.39 | 2.51 | 140 | |
| 160-169 | 0.79 | 4.6 | 8.5 | 1.34 | 2.44 | 130 | |
| 170-179 | 0.77 | 4.1 | 7.9 | 1.30 | 2.28 | 120 | |
| 180-189 | 0.76 | 3.9 | 7.4 | 1.22 | 2.07 | 110 | |
| 190-199 | 0.75 | 3.5 | 6.6 | 1.13 | 1.83 | 100 | |
| 200-209 | 0.71 | 3.0 | 5.8 | 0.97 | 1.56 | 90 | |
| 210-219 | 0.60 | 2.5 | 5.1 | 0.92 | 1.49 | 80 | |
| 220+ | 0.58 | 2.1 | 4.2 | 0.85 | 1.27 | 70 | |
| Pro | 0.47 | 1.7 | 3.1 | 0.72 | 1.18 | 60 | |
| Your Results | 210 | 0.61 | 3.4 | 6.9 | 1.17 | 1.15 | 66 |

Bowler 3: After

| Comparison Chart | | | | | | | |
|---|----------------------|---------------------|---------------------------|--------------------------|----------------------------|---------------------------|-----------|
| The data in this chart has been collected from a large sample of bowlers of all skill levels. The chart presents average values for several properties based on 10 pin average ranges. Simply compare your results to those in the chart to see where you rank. A lower ranking for a given property means that is an area of your game that needs improvement. | | | | | | | |
| Average Range | Velocity Range (mph) | Release Arrow Range | Target Point Range boards | Break Point Range boards | Launch Angle Range degrees | Entry Angle Range degrees | RPM Range |
| 139- | 1.10 | 6.8 | 10.6 | 2.01 | 3.34 | 160 | |
| 140-149 | 0.97 | 5.9 | 9.4 | 1.56 | 2.73 | 150 | |
| 150-159 | 0.85 | 4.8 | 8.8 | 1.39 | 2.51 | 140 | |
| 160-169 | 0.79 | 4.6 | 8.5 | 1.34 | 2.44 | 130 | |
| 170-179 | 0.77 | 4.1 | 7.9 | 1.30 | 2.28 | 120 | |
| 180-189 | 0.76 | 3.9 | 7.4 | 1.22 | 2.07 | 110 | |
| 190-199 | 0.75 | 3.5 | 6.6 | 1.13 | 1.83 | 100 | |
| 200-209 | 0.71 | 3.0 | 5.8 | 0.97 | 1.56 | 90 | |
| 210-219 | 0.60 | 2.5 | 5.1 | 0.92 | 1.49 | 80 | |
| 220+ | 0.58 | 2.1 | 4.2 | 0.85 | 1.27 | 70 | |
| Pro | 0.47 | 1.7 | 3.1 | 0.72 | 1.18 | 60 | |
| Your Results | 210 | 0.24 | 1.6 | 3.9 | 0.48 | 1.91 | 64 |

the board location at the end of the pattern that provides the bowler with the most margin of error. For example, a 40-foot pattern would have an exit point of board 9 at 40 feet ($40-31=9$).

- Draw a line from the exit point to the pins. (See the board locations at the pins below). Use the focal point image provided in the article to assist you with this. These are righthanded focal points. For most sport conditions, begin by drawing a straight line back on the same board. In our 40-foot example, your starting test focal point would be the center of the 6 pin for righthanded bowlers, and the center of the 4 pin for lefthanded bowlers.
- Choose a visual short target, based on drawing a straight trajectory line back, from the focal through the exit point. In the starting practice case, we will test a straight line on a sport pattern. The visual or short target would be board 9 at the arrows, dots or in front of the foul line, where you normally target visually with your short target when throwing the ball.
- Add seven boards to determine an appropriate lay-down board that corresponds with this trajectory line. Some adjustments will be needed on your slide point, based on your individual laydown.



phase of the 3-Point Targeting with Quiet Eye System. The Quiet Eye is a critical addition to the 3-Point Targeting method.

After you are completely set up on the approach, you will begin targeting, back to front. When targeting, you will begin with the focal point. Be sure to keep your eye on the exact spot on the deck or on the pin that corresponds with the

board that you want to use. For example, if it is the center of the 6 pin, be sure to only look at the center of the 6...not the 3-6 or 6-10.

1. To promote the Quiet Eye, you will keep your gaze on the focal point for two full seconds: one-thousand one, one-thousand two.
2. Next, bring your eyes to the exit point. Again, keep your eye on the target for two full seconds: one-thousand one, one-thousand two.
3. Finally, bring your eyes smoothly to the visual target. Again, keep your eye on the target for two full seconds: one-thousand one, one-thousand two.

Making adjustments

When making adjustments, move the focal point first before the visual. The exit point will remain. For example, for a righthanded bowler, if the ball is hooking too far left, you will need to move your focal point to the right to change the trajectory line.

After moving the focal point to the right, draw the line back through the exit point to your visual target. At this point, you will have a new slide point as well. Think of this process as when a children's spinner moves, much like those spinners used in Chutes and Ladders or Candy Land games. The exit point will be in the center. If the top moves right, then the bottom of the spinner moves left. In other words, the focal point would move right and the visual target left, with the exit still in the same spot.

After the new line is established, set your slide shoe parallel to this new target line. Be sure the new line created is a straight trajectory line. The ball will go in the direction of the focal point, then, based on your release and bowling ball, change direction toward the pocket. This will change your launch angle through the exit point.

As you throw the ball, make an effort to throw through all three points, in your mind. If you have difficulty finding the exit point, when targeting, establish

Implementing 3-Point Targeting (with Quiet Eye)

Based on your plan, you will now have three specific targets to aid in establishing a better trajectory line. Specifically, you now have your four reference points:

- focal
- exit
- visual
- slide point

Remember, when implementing, you will target from back to front, from the focal through the exit through the visual.

As I discussed in the March issue, elite athletes have a quieter target gaze and a longer time on the target. So, we will introduce this during the implementation


the appropriate focal and visual targets, using the exit point in the planning phase. Then, you can use the focal and visual targets, which go through the exit point. Some bowlers have difficulty seeing the exit point clearly when on the approach. But, these bowlers can use the exit point in the planning process.

**Residual effect:
mental game improvement**

After implementing the system for many months, I have also noticed improvements in the bowlers' mental games as well. Specifically, one of the residual mental game benefits of using the 3-Point Targeting with Quiet Eye System is an improved pre-shot routine, including a calmer and more even mental state. In addition to establishing better target lines, the system provides bowlers with an improved level of focus, reducing distraction. This truth can not be overstated. Users of the 3-Point Targeting with Quiet Eye System report a quieter mental state and improved level of focus. This aids in the bowler's ability to retain the same level of focus, mental energy and emotional state. This was not the intent when developing the system. Yet, it is another example of serendipity in action.

Lane play accuracy

With C.A.T.S. data, I have seen a remarkable improvement in hundreds of bowlers' lane play accuracy as a result of employing the 3-Point Targeting with Quiet Eye System. The use of the system aids bowlers in lining up on any lane condition with ease, as well as establishing better trajectories, appropriate for the specific lane condition a bowler faces, including PBA and other sport patterns.

Do you want to improve your target lines? With some practice, implementing the 3-Point Targeting with Quiet Eye System, you too can become more accurate in your lane play, opening up the largest margin of error possible. 

Resources:

Slowinski, J. (March, 2008). *Using a Quiet Eye is the Key to Improving Targeting Accuracy.*

Slowinski, J. (June, 2007). *3-Point Targeting for Advanced Lane Play: For a Bigger Margin of Error.*

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