SHOW NOTES

# The "Why Before the How" Effect

The "Why Before the How" Effect

Episode 1 | Season 3 | *Coaching Research To Results Podcast*

## EPISODE AT A GLANCE

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| **Paper** | Application of the teaching games for understanding model to improve decision-making in sport learning: a systematic review and meta-analysis |
| **Author** | González-Valero, G., Ubago-Jiménez, J. L., Melguizo-Ibáñez, E., & Fernández-García, R |
| **Published** | BMC Psychology, 2024 |
| **Episode Length** | Under 13 minutes |
| **Tags** | TGfU, decision-making, game-based learning, tactical awareness, sport pedagogy |

## THE THREE STICKY IDEAS

These are the labels to remember from this episode. They are designed to stick with you long after the research fades.

### The 'Why Before the How' Effect.

Across 25 studies and nearly 1,700 athletes, Teaching Games for Understanding produced a moderate-to-large improvement in decision-making compared to traditional drill-based instruction (g = 0.72). The model works by having players engage with the tactical "why" inside a game first, rather than drilling technique in isolation before reintroducing the game.

### Effect Size Grows with the Learner.

The decision-making benefit of TGfU held at every educational stage studied, and it grew larger as athletes got older, from primary through secondary to university level. This suggests TGfU is not just a youth introduction strategy; more experienced athletes may benefit from it even more.

### The Real Game Is the Teacher.

In the studies' control groups, traditional drill-based instruction did not produce a significant improvement in decision-making, even though it likely improved technical execution. The

researchers argue this is because isolating a skill from its game context removes the decision itself, the very thing that drives the learning.

## TWO ACTIONS

Take one or more of these actions into your next coaching session.

### Try a game-question-game structure

Run a game-question-game structure in your next session: play a modified small-sided game for five to eight minutes, pause to ask one tactical question, then play again. This puts players in the position of identifying their own options, which is what builds decision-making rather than just technical execution.

### To design one modified game for your next training block that deliberately exaggerates a tactical decision you want your players to get better at

Design one modified game that exaggerates a specific tactical decision you want players to improve, using a rule change to make that decision come up more often. Build it into five to ten minutes of training and debrief with a single question, since this is the modification-exaggeration principle TGfU practitioners use to target decision-making directly.

## RESEARCH REFERENCE

**Primary Source:** González-Valero, G., Ubago-Jiménez, J. L., Melguizo-Ibáñez, E., & Fernández-García, R. (2024). Application of the teaching games for understanding model to improve decision-making in sport learning: a systematic review and meta-analysis. BMC Psychology, 12, 781. https://doi.org/10.1186/s40359-024-02307-2

**Counterpoint Sources:** Morales-Belando, M. T., Kirk, D., & Arias-Estero, J. L. (2022). A Systematic Review of Teaching Games for Understanding Intervention Studies From a Practice-Referenced Perspective. Research Quarterly for Exercise and Sport, 93(4), 670-681.

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## FULL EPISODE TRANSCRIPT

The following is the complete script for this episode of *Coaching Research To Results.*

### Cold Open

Here's a thing coaches do a lot: "We'll do the skills first, then we'll play the game." It makes complete sense. Get the pass right. Get the footwork right. Build the foundation. Then, when they've got it, we'll let them play. Solid logic. The problem is that the research has been quietly dismantling that approach for years. It turns out that when you take the game away from the skill, you might also be taking away the exact thing that teaches players to think. And if decision-making is what separates good players from great ones, you need to hear what a recent meta-analysis of 25 studies and nearly 1,700 athletes has to say. Because the evidence is in. And it might be time to reexamine how we plan the main part of practice.

### Intro and Show ID

Welcome to Coaching Research To Results. I'm Beth Barz, the Coach Developer. This is 1 paper, 3 ideas, and 2 actions for tomorrow in under 15 minutes. This is the podcast where coaching research gets off the shelf, out of your notes, and into your practice. Let's go.

### The Paper

The paper is called, "Application of the Teaching Games for Understanding Model to Improve Decision-Making in Sport Learning: A Systematic Review and Meta-Analysis," published in BMC Psychology in 2024. The lead author is Gabriel González-Valero from the University of Granada in Spain, with co-authors José Luis Ubago-Jiménez, Eduardo Melguizo-Ibáñez, and Rubén Fernández-García from the University of Almería.

Here's what they did: they searched six major research databases, pulled together 25 high-quality studies from nine countries, and combined the results to get a single, clear answer to one question, “does Teaching Games for Understanding actually improve decision-making in sport?” The reason they did this is that previous reviews had touched on TGfU's benefits in general, but no one had drilled down specifically into decision-making, and no one had asked whether the effect changed depending on the age of the athletes. This paper fills that gap.

### Big Idea #1

The big idea could be called "The 'Why Before the How' Effect."

Across 25 studies, Teaching Games for Understanding produced a moderate-to-large improvement in decision-making compared to traditional drill-based instruction. The effect size was 0.72 -- which, in research terms, means this is not a marginal or theoretical difference. It is a meaningful, consistent, real-world difference in how well players read the game and make choices under pressure.

Here's why that matters. TGfU is built on a simple but radical idea: before you teach a player how to do something, put them in a game where they need to understand why they would do it. You play a modified game, you stop it, you ask a question, "What were your options there? What made you choose that pass?" and then you play again. The understanding comes from inside the game, not from a drill that sits outside it. And, the coach becomes the question-asker...which is

the hardest shift of all. The coach's role in TGfU shifts from traditional demonstration and correction of technique to deeply framing while posing problems and asking questions that deepen tactical understanding.

Drills teach players how to move. Games teach players when to move. TGfU is the bridge between how and when.

Think about the last session you coached. How many decisions did your players make in the drills without being told what to do? Now how many did they have to make in the game? If there is a gap, then this research is speaking directly to you.

## Ideas #2 and #3

The big idea could be called "Effect Size Grows with the Learner."

The researchers broke the results down by educational stage, and here's what they found. Athletes typically 11 to 12 years old showed a statistically meaningful improvement. Athletes up to age 16...even more improvement. And then older and university aged athletes...even more improvement! The pattern is clear; the older and more experienced the learner, the larger the benefit of game-based teaching for decision-making.

What that tells us is that TGfU is not just a strategy for young beginners. It is not a training-wheels approach that you graduate out of. If anything, it might matter more as your athletes develop, because they bring more tactical knowledge to the game context, and TGfU gives them a structure to apply that knowledge under real decision-making pressure. If you coach adult or semi-elite athletes and you've been told TGfU is only for kids, this is the data that pushes back on that assumption.

The big idea could be called "The Real Game Is the Teacher."

In the studies that used traditional drill-based instruction as the control condition, there was no significant improvement in decision-making. Players got more repetitions. They probably got more technically polished. But their ability to make better choices in the game did not improve in the way TGfU produced.

The reason, the researchers argue, is this: when you isolate a skill from its game context, you remove the decision. A passing drill does not ask players, "should I pass?" Instead, it asks them, "can you pass?" Those are completely different cognitive tasks. TGfU keeps the decision in the environment at all times, even in the modified or small-sided game formats. The game context is not the reward at the end of the session. It is the teaching tool itself.

## The Counterpoint

Now, let's complicate the picture a little, because that's how solid research works.

The overall effect of TGfU is real and consistent, but the heterogeneity across studies is high; meaning individual studies vary quite a bit in how large an effect they found. Some primary-education studies showed small or non-significant effects for specific decision types. For example, general decision-making in netball showed a very small effect size and contact decision in badminton was close to zero. And in higher education, the small number of studies (just four) means we need to be cautious about how confidently we interpret that larger effect.

A 2022 systematic review by Morales-Belando, Kirk, and Arias-Estero (found that TGfU implementation quality, fidelity to the model's pedagogical principles, and the role of teacher

training all significantly moderate outcomes. In other words, TGfU done partially or inconsistently is not the same as TGfU done well. The approach requires a specific shift in how you facilitate, question, and structure the game environment AND that shift takes intentional practice to develop as a coach.

## The Anecdote

Here's a quick story that illustrates the "Why Before the How" Effect.

I once worked with a youth soccer coach who ran technically excellent passing drills for several weeks. In games, the players could execute the pass under no pressure but consistently made the wrong choice under pressure; they would find themselves holding the ball too long or passing when they should have driven forward first.

The turning point came when I suggested the coach simply stop one small-sided game mid-flow and ask the ball carrier, "what were your options?" rather than telling the athletes what the right pass was. The players correctly identified the potential options themselves, much to the coach's surprise. In the next game sequence, the same decision came up, and the athlete made it correctly, without any prompting from the coach.

The coach said afterward: "I'd been teaching the pass for three weeks. I never once asked them why they would or wouldn't make it."

The question, "what were your options?" allowed the athletes to understand all of the options available and further allowed conversation on why each of those options was good or not under certain circumstances. And that meant the coach finally got the outcome he'd been training for after weeks of frustration.

## Two Actions

How can you implement this in your own practice?

Action one for this episode is to try what researchers call a game-question-game structure in your very next session. Here is how it works. You start with a modified small-sided game -- smaller space, fewer players, a rule that forces a particular decision. You let them play for five to eight minutes. You stop the game. You ask one question. Not "what did you do wrong?" -- one tactical question. "What were your options when you had the ball near the edge?" or "When your teammate was open and you didn't pass, what made you hold it?" You give players 60 seconds to talk to each other. Then you play again. That's it. You don't need a new curriculum, a new facility, or a training course to try this tomorrow. You need one game, one pause, and one question. If you do that in your next session, you've started applying what the evidence says works. Notice what changes in the quality of your players' decisions in the second game.

Action two is to design one modified game for your next training block that deliberately exaggerates a tactical decision you want your players to get better at. This is what the researchers call the modification-exaggeration principle from TGfU: you change a rule to make a particular decision more frequent, more visible, and more practised. For example, if you want players to make better decisions about when to switch the point of attack in an invasion game, you might restrict players to one side of the field for a set number of passes before they must switch. If you want better decision-making under pressure in a net game, you might shrink the

court and increase the speed of play. Whatever the decision, ask yourself: what rule change would make players face this decision more often? Build that into a five-to-ten minute game at the start of your next session and debrief it with one question at the end. This is the kind of intentional game design that TGfU practitioners build over time and you can start with just one.

## Close

Three big ideas from today. Teaching Games for Understanding produces real, measurable improvements in decision-making in sport and the effect holds across primary school, secondary school, and university age groups. The effect is not about game-based learning being "fun" or "engaging," though it often is. It is about the fact that when you put understanding before execution, players develop the cognitive map they need to navigate a real game. And the gap between drill-trained players and decision-trained players grows wider as athletes get older.

The sharp thing to carry with you: it is not the drill that is holding your players back. It is the absence of the question.

Ask "why" before you teach "how." Pause the game. Ask one question. Play again. That is where the decision-making development lives.

If you coach at any level -- from beginners in primary school to athletes heading into elite pathways, the evidence says game-based environments that prioritise tactical understanding are not just a nice idea. They are the better choice for building players who think.

I'm Beth Barz, The Coach Developer. You'll find show notes and the full library of episodes at www.thecoachdeveloper.com. If any idea from today lands for you, like, subscribe, and share it with another coach this week. That's how research actually travels. See you next time!