

# Protégé Effect: teaching someone else is the best way to learn, according to research



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If you're a writer, thought leader, coach, or parent, you already intuitively know what I'm about to tell you...

## Teaching others is best way to learn.

What you probably don't know is, WHY?

Dozens of studies over the last few decades in the learning sciences tell us two things:

- The power of teaching on learning is real. It's so powerful that researchers have given it a name—The Protege Effect.
- We now have a much better understanding of why The Protege Effect is so powerful and how it works.

Let's dive into the research...

## #1) When you learn something with the intention to teach it later, you learn it more deeply

I know this one first-hand. As a writer, everything I learn is potential material for an [article](#) or a [course](#). Therefore, as I read, I ask myself two questions I wouldn't normally ask:

- What is so interesting and valuable that it would be worth teaching to others?
- How would I go about explaining this concept to someone else?

Furthermore, because I'm a writer, I take much more detailed notes, knowing they will be essential for sharing specific stories, studies, examples, and quotes I wouldn't be able to remember otherwise.

In two experiments, participants were asked to study material. Group one was told that they would then teach that material to another student before being tested. Group two was told that they would only be tested.

Amazingly, the students who were told that they were going to teach later on:

- Had better free recall of the material
- Correctly answered more questions about the material

Keep in mind that the participants never actually taught the material. *Just the expectation alone was enough to create the effect.*

## #2) Teaching something reveals gaps in your knowledge

"If you think you know everything, you will learn nothing. If you think you know nothing, you will learn everything."

Have you ever felt that you knew something, but then got tongue tied when you tried to explain it to someone else?

This is actually a good thing.

Teaching reveals gaps in our knowledge. When we're aware of those gaps, we become more humble, and we ask more

questions.

Decades of research in the field of expert performance shows that being able to recognize one's own mistakes is critical to becoming world-class. Anders Ericsson, one of the pioneers in the field, explains why in his book [Peak](#):

*"Several researchers have examined what differentiates the best musicians from lesser ones, and one of the major differences lies in the quality of the mental representations the best ones create. When practicing a new piece, beginning and intermediate musicians generally lack a good, clear idea of how the music should sound, while advanced musicians have a very detailed mental representation of the music they use to guide their practice and, ultimately, their performance of a piece. In particular, they use their mental representations to provide their own feedback so that they know how close they are to getting the piece right and what they need to do differently to improve. The beginners and intermediate students may have crude representations of the music that allow them to tell, for instance, when they hit a wrong note, but they must rely on feedback from their teachers to identify the more subtle mistakes and weaknesses."*

In summary...

- In order to improve, we need to be able to recognize our mistakes.
- When we're beginners in a field, it can be hard to notice subtle mistakes, and therefore, it can be hard to improve on our own.
- Teaching provides an excellent way for us to quickly get feedback on our knowledge gaps without depending on a mentor or coach.

### **#3) The more you can teach it to a toddler, the more you know it**

"The person who says he knows what he thinks but cannot express it usually does not know what he thinks." — Mortimer Adler

Not all teaching is created equal. When you teach a concept to someone in your field at your same ability level,

you can use jargon and take shortcuts. However, when you teach a toddler, you must do several things differently:

- First, you must have a **deeper understanding** of what you're talking about so you can pull out the core idea.
- You **cannot use jargon** or it will give over the child's head.
- You have to **condense the explanation** in order to keep the child's attention.

Take fire for example. We all know what fire is. Right?

Maybe not.

Try explaining what fire is to a toddler. You'll quickly realize you don't *really* know.

You'll likely stumble over your words and say things like, "It's hot. Yellowish-orange. You get burned if you touch it."

Now, consider how one of the most successful scientists (and best teachers) of the 20th century, Nobel Laureate Richard Feynman, explained fire. Feynman was known for his ability to explain complex topics in simple terms. After watching this short video, you'll never see fire the same.

Condensing ideas also forces you to completely rethink your teaching approach. You can't just regurgitate what you were told or what you read. You really have to transform the knowledge in your head. This means you'll have to use more metaphors and stories.

French mathematician and philosopher Blaise Pascal captured this truth in his famous quote:

"I have made this longer than usual because I have not had time to make it shorter."

## #4) Teaching naturally takes advantage of spaced repetition

Consider a speaker at TED. They spend months ruthlessly reducing years of research into an 18-minute talk. They get multiple rounds of feedback and are expected to rehearse over and over until their talk is flawless.

The same is true for books. An author first needs to turn their ideas into a query letter to sell their literary agent. Then, the author needs to create a book proposal to sell an editor at a publishing house. Then, the writer goes through multiple drafts over months.

As a writer, when I write [longform articles](#), I often go through drafts 10-15+ times and get feedback from 4+ people.

In all of these cases, teachers are using one of the most powerful and proven learning methodologies—spaced repetition.

[Research has shown](#) that we forget knowledge at predictable rates if we do not review and use that knowledge. The rate at which we forget is known as the Ebbinghaus Forgetting Curve:



By practicing something repeatedly before you forget it, you are more and more likely to remember the knowledge forever.

In the diagram below, we see how reviewing newly learned information does two things:

- It resets the forgetting curve so you're back at 100% retention.
- The forgetting curve becomes less steep, meaning that you retain the information for longer. In other words,

each practice session gives you more bang for the buck.



## #5) Teaching naturally takes advantage of the "testing effect"

One of the more surprising findings in the learning sciences is the **testing effect**.

When we practice retrieving what we have previously learned by trying to recall it from memory rather than simply highlighting it or reviewing it in written form, our retention of the information skyrockets. In other words, **every time we pull up a memory, we make it stronger and longer lasting.**

The reason this happens is **desirable difficulty**—the finding that learning tasks that require considerable, but not overwhelming effort are more likely to be retained.

In **one study**, students learning a foreign language were split into several groups, and each group was given a different study and test protocol:



Here is how the researchers summarize their findings:

- "The results show that testing (and not studying) is the critical factor for promoting long-term recall."
- "Repeated study after one successful recall did not produce any measurable learning a week later."
- "Repeated retrieval increased final recall by 4 standard deviations ( $d = 4.03$ )."

In **another study**, students learning from a science textbook who were tested on what they read remembered approximately 50% more than students who studied in other ways. The researchers conclude by saying:

"Research on retrieval practice suggests a view of how the human mind works that differs from everyday intuitions. Retrieval is not merely a read out of the knowledge stored in one's mind – the act of reconstructing knowledge itself enhances learning."

## #6) Teaching makes you accountable

There are different levels and types of commitment:

- **Commitment to yourself in your head.** As a result of the Consistency Bias, we have a strong tendency to stay consistent with our past commitments, ideas, thoughts, words, and actions.
- **Commitment to yourself in writing.** When we commit something to writing, it becomes more real. We can look at it. And the commitment to ourself becomes even stronger.
- **Commitment to others.** When we commit something to other people, we capitalize on our innate social tendencies. We're more likely to follow through so we don't lose face.
- **Repeatedly commit.** The more often you commit to something, the more committed you become.

Teaching checks off all of these boxes. Which means that when you teach something, you're more likely to actually follow through and use the concepts in your own life. Fundamentally, teachers aren't just information conduits, they are role models as well.

## #7) Teaching gives you feedback

And let's not forget the obvious. When you teach, you get all sorts of feedback from the outside world. From people's facial expressions, you can see whether they're following or confused, engaged or bored. People's questions tell you what's confusing. As an article writer, I got feedback from the number of views and shares an article has, the comments, and personal messages I receive. All of these develop my own thinking on the topic.

## Take-Away

Now that you're sold on the power of teaching to learn, you're probably wondering, "How do I incorporate teaching into my life?"

**Here's the simple answer: as soon as you learn something, teach it to others!** Bottle up that excitement you have from what you learned and transfer that feeling into others.

Call up a friend on your commute to or from work. Or shoot them an email with your notes. Share what you learned with your spouse while your washing the dishes or taking walk. At the next team meeting, teach something new and relevant you learned to your team. Or, write an article...

Writing articles is my secret to learning. And, over the years I've developed a method for creating notes from what I learn and then turning those notes into articles. Now, those articles have been read tens of millions of times on top publications like Forbes, Fortune, Time, Inc., and the Harvard Business Review.

**For the first time this year, I'm sharing my system for leveraging the Protégé Effect. If this is something you're interested in, comment on this article with how the Protégé Effect has impacted your life and connect with me on LinkedIn. Then, I'll follow up a step-by-step template as soon as I'm done.**

Finally, I'll leave you with this...

When you think about it, the power of teaching as a way to learn better is profound, and it's *profoundly* underestimated.

"Any time we venture to teach anything to anyone, we are likely to learn more than those we teach. We gain the most by giving."

I hope this article inspires more people to recognize and take advantage of the teaching opportunities that life gives us all — opportunities to teach our kids, our colleagues, our mentees, our friends, the next generation, and even strangers.

We are all teachers.

\* \* \*

***Disclaimer:*** The cover image I used for this article is known as the Learning Pyramid, and it is not based on academic



research. However, I included it here because it resonates as true for me as a learner and teacher.

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Do you agree with the Protege Effect?

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**Christoph U.** • 3rd+

Senior Systems Engineer @ Digital Rail

9mo •••

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I tent to take on the responsibility is to create a training that everyone understands immediately rather leaving the participants with questions or confusion.  
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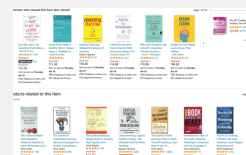


**Reid Yamamoto (He/Him)** • 3rd+

I Will Train and Coach You to Become a High-Ticket Sales Pro

1y (edited) •••

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