

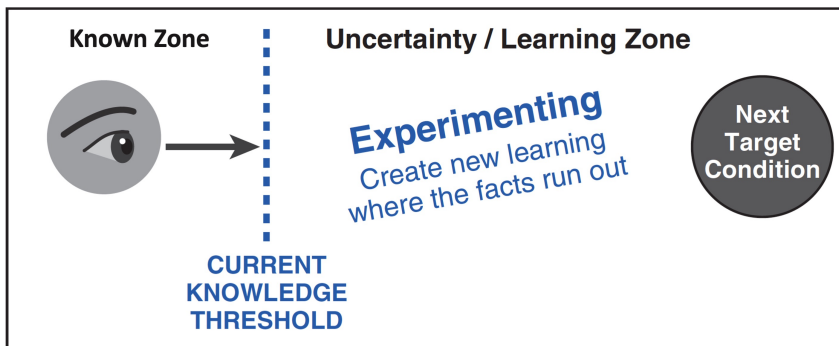
## THE THRESHOLD OF KNOWLEDGE (TOC) – *We Don't Know, Yet!*

*Recognizing one's Threshold of Knowledge can be difficult, but it is a remarkably useful skill.*

*Make "Threshold of Knowledge" or "Knowledge Threshold" a phrase you use. It's the point where what we know ends and what we don't yet know begins. It marks the boundary between our current understanding and the uncertain learning zone that lies ahead. Recognizing and referring to this ever-present but shifting line helps students see that not knowing isn't a failure—it's normal, and a starting point for discovery and learning.*

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### 1) What is the Threshold of Knowledge?



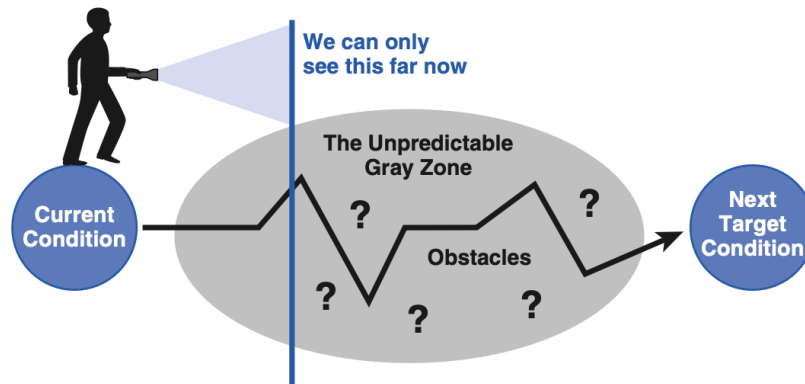
**Spot the knowledge threshold, acknowledge it, and conduct your next experiment here as quickly as possible.**

The Threshold of Knowledge is the boundary between what we know and what we don't yet know. It's the point at which you have no facts and data and start guessing. This is where curiosity begins. On the Improvement Kata Poster, the ToK is represented by a dotted line.

There is always a Threshold of Knowledge, but we often don't notice it because our assumptions feel like facts. Recognizing this threshold reminds us that we don't have the answer yet, and that this is where exploration, discovery, and innovation begin.

Scientific thinking is about operating at this threshold, where anything we can say is speculation. At that boundary you plan a step and make a prediction about what will happen (in the Experimenting Record), take the step, and see what you learn. Moving this boundary forward involves experimentation, rather than simply believing your assumptions and staying put.

As students conduct experiments and learn, their Threshold of Knowledge shifts. It's like when you are out at night with a flashlight and can only see as far as its light shines into the dark. To see deeper you have to take a step forward (an experiment), which makes the light shine further, on things you couldn't see before.



It's like the beam of a flashlight, which only shines so far.

## 2) How to Use the Threshold of Knowledge Concept

### Refer to it Often

Think of the Threshold of Knowledge as something you can refer to in various ways over the school year. You don't have to wait for a perfect moment to introduce the Threshold of Knowledge — it's always present. Highlight it regularly by pointing it out in your students' process and language, such as *"You're not sure what will happen next? That means you're at your TOK!"*

Your role here is to help students see the boundary between what they know (and can confirm) and what they need to learn next, and guide them to take small, manageable steps (experiments) beyond that threshold. When the boundary is clear, the next step (experiment) often becomes clearer too.

Look for natural moments during the student's practice when they encounter uncertainty or seem over-confident. Pause to help them recognize that they've reached a threshold of knowledge. Invite them to describe what they know so far and what they need to learn next.

You can also model this out loud yourself when you're not sure about something. Make "not knowing yet" apparent and normal. Using the word "yet" this way can be very effective in conjunction with the TOK. Toward this end, the Kata School Cascadia uses the phrase and mascot, *"I don't know Yeti."*



From Kata School Cascadia

## Recognizing a TOK

The threshold of knowledge is not always obvious. We easily make assumptions and cross it without realizing. Listen for students saying things like the following, which may indicate they are getting past their knowledge threshold:

- “I think,” “maybe,” “probably,” “on average,” or “90 percent of the time”
- “Let’s reduce/increase it by 50 percent” (a common estimate when a specific number is unknown.)
- References to old data
- Arguments based on assumptions
- Anecdotes offered in place of solid evidence

## What to Do at a TOK

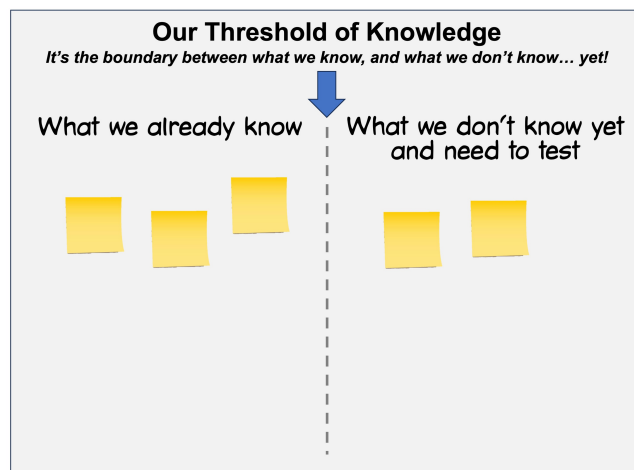
When you encounter uncertainty, call it out in a positive way, like finding something: *“Ah, this is our current threshold of knowledge!”* Use it to pause and identify an experiment or next step to move learning forward. Recognizing your current threshold of knowledge is important, because it shows you where to conduct your next experiment. Here’s what to do:

**1. Acknowledge the knowledge threshold.** This can be difficult for students to do until they get some practice, because our brain tends to jump right over knowledge thresholds. But with practice, students will start to recognize how often they cross over knowledge thresholds without noticing.

**2. See farther by conducting an experiment.** When the way forward isn’t clear, don’t debate ideas endlessly — run an experiment. Guide students to ask, “What’s a simple test we could try now to find out more?” Once that experiment is planned, move forward with it. That’s how you shine the flashlight further.

Some examples of things the educator can do:

- **Ask:** *“What’s your threshold of knowledge right now? What do you need to learn next?”*
- **Say:** *“Ah, this is the threshold of knowledge again! What small step we could take to learn beyond it?”*
- **At the start of an experiment point out:** *“Your hypothesis and plan are your best guess right now — but you’re still standing at the threshold. Let’s see what the experiment reveals.”*
- **When a student says, “I don’t know,” reward it by responding positively:** *“That’s great! You’ve found a knowledge threshold and know where to focus. The best learners are always working near the edge of their understanding. ”*
- **Use a sticky note Threshold of Knowledge tracker** with these headings:
  - What we already know
  - What we don't know yet and need to test



### 3) Why Practice Using the Threshold of Knowledge Concept?

The Threshold of Knowledge concept encourages a scientific mindset, where a plan is actually a hypothesis and every step is an experiment.

The experimenting zone may feel awkward at first, but that's where all the possibilities lie! Ideally students will begin to see Thresholds of Knowledge all around them and become more comfortable with that. The ability to be aware of knowledge thresholds and design good, cheap, quick, experiments are important skills and mindset for adaptiveness, agility, and resilience. By using and reiterating the TOK concept, you help students:

- View uncertainty as a natural and expected part of life and learning, increasing their confidence and ability to navigate the unknown.
- Feel safer admitting they don't know something.
- See learning as a journey, not a judgment of intelligence.
- Develop persistence and a sense of self-efficacy.
- Build habits of curiosity, inquiry, and critical thinking.

Integrating the Threshold of Knowledge concept into students' everyday thinking leads to:

### **1. Normalizing Uncertainty as Part of Learning**

Students often associate being smart with having all the answers. Referencing the Threshold of Knowledge helps shift this belief, showing them that not knowing isn't a weakness, but rather a natural feeling you get when you are in the learning zone. The discomfort you feel in the learning zone is a positive indicator that you are engaged in learning something new.

### **2. Supporting Metacognition (Thinking About Thinking)**

Encouraging students to reflect on their own thinking builds self-awareness — a foundation for becoming independent, strategic learners.

### **3. Promoting a Classroom Culture of Curiosity and Inquiry**

When educators consistently reference the threshold, it creates a shared language and expectation: *"This is where we stop knowing and start investigating."* This fosters a learning environment grounded in exploration and growth.

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