A PEDAGOGY OF QUESTIONING

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INTRODUCTION

This book used to be known as "Highly Effective Questioning: Challenging the Culture of Disengagement" from 1996-2011 and before that as "Cognitive Education Methodology for Teaching Content, K-12."

In 2011, I rechristened it as "A Pedagogy for Questioning" (APOQ) because that's what it fundamentally is: a detailed description of cognitive and behavioral strategies classroom teachers can practically employ to improve their in-class questioning. I teach a workshop based on this book, so as you read this book, you'll also be learning many of the ideas discussed in the workshop. I am also a trial lawyer in Phoenix, Arizona, but more on that in the final chapter of the book, where I try to connect questioning to broader ideas, like democracy and freedom. But that's many pages down the road.

Please note that readers from around the world have helped me improve this book from one edition to the next, so if you spot errors or simply want to make a suggestion, go ahead and send me an email, and I'll make every effort to incorporate corrections into future editions.

Also, before you read any further, please understand that I'm not attempting to write a textbook here. It's intended to be more of a conversation between me, and you, the reader. It is not intended as some sort of carefully worded argument of all things questioning. If there's some hyperbole or off-the-cuff remarks, or wistful remembrances, please understand that they go part and parcel with the journey that led me, and now you, to this book.

Why Pedagogy?

But before we delve into this self-described pedagogy of questioning, I think it's important to consider for a moment why pedagogy—how we teach--should itself be the focus of our attention as educators.

For at least the last 20 years, when people have discussed education reform, they often seem to have conflated improving teaching with changing "what" is taught more so than the "how" the classroom teacher actually teaches. Perhaps the hope had been that new content delivery systems (e.g., whiteboards to online courses) would by their very nature also change the pedagogy of the humans doing the teaching. Or more truthfully, perhaps it's simply easier to change objects and networks and written frameworks than to actually change people, e.g., teachers. This book, oppositely, is intended to focus very specifically on "how" one teaches, albeit just in the context of classroom questioning.

An Inconvenient Question

One of the more interesting starting points for any discussion of questioning is to ignore it entirely, and focus instead on a different question: Why aren't more students learning already? That's a puzzling question! Because there has been one revolution that would seem to have vastly accelerated learning but hasn't had the predicted effect. The Internet has made access to content or information via the Internet is now almost universal, nearly free, and essentially instantaneous yet the effect on learning has been mostly marginal for too many K-12 students—the majority, I'd say. It's like those stories where you hear someone won the lottery and then you find they are penniless a few years later. How does that happen, you wonder?

If your memory or age allows, take a moment to revisit the pre-Internet or nascent Internet period of the late 1980s and early 1990s. By today's standards, very basic computers were in schools, but because they were quite expensive, they were often organized into clusters so that small groups of students could have access to them for short periods of time. You'd go visit these clusters on your 6th rotating

period or something. Depending on your age, you may remember big clusters of boxy beige plastic and bulbous glass monitors.

The information on these mostly stand-alone computers was limited to what was loaded on each of them. A student might insert an encyclopedia on a DVD (if it wasn't scratched) to increase the repository of information. But there was no information superhighway or even an information dirt road (unless you are thinking 28.8 baud modems) to get more information.

Then, the Internet really arrived. In the subsequent decade, say from 1995 to 2005, computers were initially networked within schools and eventually connected to the Internet as a whole. By 2000, some students were given laptops to take home, a "laptop for every child." Notes, lectures and even whole classes were then put online. Perhaps we were reasonable to think, "This is going to change everything!"

It is now mid 2016 at the re-writing of the latest edition of this book. Devices like the iPad put the entire world of content within the immediate grasp of the learner. The physical weight of books themselves may soon become a memory—goodbye, bookstore, my old friend. The Library of Alexandria and the Library of Congress and all the information that has been preserved in the world since written history now lights up our faces with a pale light. It's like magic.

Now go back and compare this information bounty to what a student would have had available in 1985. The library's "card catalog" might have been the student's best resource for learning new information. There was no "Internet" and no Google, no YouTube, no email, and no Facebook, Twitter, Instagram, Snapchat, et cetera. As a diligent student, if your textbook's explanation of a concept or problem wasn't very good, you were essentially stuck staring at those same few pages to divine some understanding. You couldn't pull up a video or email a friend--or the teacher--to help you. As I like to say in workshops, just not too long ago, our universe of information in the classroom was limited to just the people and things in the room with us—but no longer.

Again, in retrospect, given this incredible change in access to information, one might have reasonably assumed that learning would

have skyrocketed. If information back then was equal to X, and it was going to become (X*1000), then you'd naturally expect learning to just leap off the charts. Surely, today's students use the Internet to facilitate their learning, no question. But reality hasn't conformed to our great expectations for a learning revolution as a function of the information revolution—at least in school. So the question is: where did the missing learning go?

This is a surprising outcome. Consider that even a couple of hundred years ago, if you wanted to show students an image of something, someone would have had to go sketch it on a leather canvas and bring that drawing back to you on a horse, and if they brought it back at night, you'd have to light a candle to see it. Learning was understandably difficult because information was itself scarce, costly, and delayed.

What we may infer from all this, I think, is that access to content (aka, "technology") or even frameworks encompassing content, which have been so much the focus of the last twenty or thirty years of education-reform, don't mean too much to those students who simply don't like to learn or don't know how or both. Learning is a function of access to information, but even more so a function of both the student's desire to learn and the teacher's ability to actually communicate and teach.

Let's be clear. I am no modern day Luddite. I am extremely grateful for my own access to content via the Internet or whatever comes next. I absolutely love technology. I appreciate that such technology and information will set many students free in their minds.

But for most American students, robust access to content or living under the Common Core or whatever framework comes next is not enough. Our kids need to be purposefully engaged in the act of learning—whether over the Internet or 10 feet away. Properly done, questioning strategies are a powerful means of creating that engagement. Thus, we as educators should revisit pedagogy—how we teach—in part to fulfill the new (or old) promise held out to us by information technology.

What This Book Is

This book is a set of practical strategies to help any interested reader understand the behavioral and cognitive components of effective questioning so that students will embrace the incredible access to content that is already here, and likely forthcoming. It forms a pedagogy of questioning.

Asking questions puts the learning proposition directly back on the student: Do you want to learn? Do you know how to learn? Questioning also provides the student a model for learning; we learn by asking ourselves questions, consciously or subconsciously.

The ultimate goal of this book isn't for the teacher to stream questions at students for the rest of their lives. With the teacher's help, the goal is for students to internalize a model of questions that they may ask themselves when presented with new information, new things.

It also hopes to create more and better moments of directed conversation in the classroom, more interest and energy and more thinking generally. Perhaps it can even revitalize us as adults in our teaching, too, for parts of the day. Seeing students learn by questioning is rewarding, and it's simply fun to use questions as a way of figuring out how the student comes to see his or her world, or book, or formula, or test question, or whatever.

This is not the only method of asking questions that exists nor would I make any claims beyond what I've seen personally and what I've heard from teachers who have used it themselves. They find it improves the way they ask questions and helps to increase learning. You are free to add, subtract or modify the strategies as you see fit. Take what is useful and use your own skill to adapt it to your content, your students, your environment or what have you. If something works for you, use it, and if not, discard or amend it.

I hope you find these strategies useful to your teaching, and I welcome your communication with me. My email is ivan@apoq.org or call 602-710-7573.

HISTORY

I include in this book a history of how this pedagogy came to be developed. Why include a history? First, it is important to understand that the strategies herein were developed over a long period of time, so it's not something of purely recent invention. The underlying ideas been thought about for a long time and continue to be developed. Second, and unfortunately, teachers are often told to learn some new teaching strategy and the rationale given to them is often a simple parable that goes along the lines of "one school in the middle of nowhere went from low performing to high performing just by doing something really easy. Why can't we do that, too?" I wonder if these superficial exhortations end up discrediting many good educational ideas as mere fads and inadvertently engender skepticism rather than enthusiasm to try new things. I want you, the reader, to know the history so you can sense where this all comes from and see the possibilities.

This book traces its origins to the ideas of my parents, Dr. Iles Lee Hannel and Dr. Maria Veronica Hannel and to the man who inspired them, Dr. Reuven Feuerstein of Israel. The story is a bit long, but worth it, I think.

Dr. Reuven Feuerstein

I learned about Dr. Feuerstein's background mostly from what my parents told me, though I did meet him on a few occasions in the early 1980s. Dr. Feuerstein came to Arizona and New Mexico to work with various Native American tribes, and my parents were his initial trainers in the Southwest throughout the 1980s.

Dr. Feuerstein was an observant Jew, a psychologist, a medical doctor and an educator. Relevant to educators, in the 1960s, Dr. Feuerstein was a graduate student of Dr. Jean Piaget in Geneva, who called Dr. Feuerstein a "genius," which seems about right to me. In addition to his other accomplishments, Dr. Feuerstein spoke nine languages.

My mother, originally from Guadalajara, Mexico was always a person with a pioneering mindset. She left the convent in Mexico in order to become educated in the United States, since in the 1960s women did not have a great professional role to play in Mexico. She initially went to college at UCLA, where she met my dad and they both left to attend graduate school at Vanderbilt University to become psychologists.

My mother first learned about Dr. Feuerstein when she saw a poster advertising a conference that Dr. Feuerstein was giving in Toronto, Canada. My parents lived in graduate housing and were quite poor, but managed to save enough money for my mother to fly to Toronto and learn about Dr. Feuerstein's thinking-skills program called "Instrumental Enrichment" and his learning theory called the "Mediated Learning Experience." After attending, she convinced my dad that they had to dedicate themselves to spreading Dr. Feuerstein's ideas to educators wherever they could.

I met Dr. Feuerstein on a few occasions in the 1980s when I was in middle school in Phoenix, Arizona, my hometown. I recall him having a huge white beard and looking quite like I imagined Moses might have looked. I remember my parents buying kosher foods for a conference Dr. Feuerstein was holding in Arizona, but he couldn't be convinced that the food was properly prepared under religious law. It was a bit puzzling to me, as I didn't understand why the great doctor wouldn't eat. Meeting this wizard-looking, accented sage in the reservations of the Southwest was fairly surreal, as I look back on it.

Dr. Feuerstein was born in 1921 in Eastern Europe and, according to what I can recall being told, was a survivor of the Holocaust. At some point in the 1940s, Dr. Feuerstein immigrated to the newly formed state of Israel. He was appointed as the director of the Israeli government organization (Youth Alliyah) that was responsible for

helping the children and youth who had been through the Holocaust and were now in Israel to adjust and succeed in school.

Almost immediately, Dr. Feuerstein noticed many students who were not doing as well as expected. He understood that the Holocaust experience left many Jewish children without traditional familial and cultural structures. They had missed was he called the "cultural transmission" of basic norms of thinking.

Importantly, Dr. Feuerstein recognized that it would not be possible for students who had missed many years of school while escaping the Holocaust (or even just coming to a new country with a new language) to simply be placed in grade and continue on as if nothing had happened. The missing years of school and cultural transmission became a structural deficit for these students both emotionally and cognitively. Dr. Feuerstein wondered what could be done to help these children.

Concepts and Cognitive Functions

Dr. Feuerstein proposed to teach students the things he felt were prerequisite to understanding content and becoming intelligent. Dr. Feuerstein believed intelligence was actually a combination of the development of certain discrete cognitive skills plus a deep understanding of certain important concepts that radiate throughout our lives.

It is important to note that Dr. Feuerstein was firmly in favor of teaching actual "content" (e.g., facts and information); there is no critical thinking without the content about which to actually think. But he felt that school often incorrectly equated "information" with learning or thinking or intelligence. In essence, Dr. Feuerstein wanted to create an "intelligence program" that would complement normal instruction in traditional school materials.

Dr. Feuerstein created a battery of materials, really a thinking-skills curriculum to teach concepts like orientation in space, sequences, family, time and position. His curriculum also developed cognitive skills like comparison, inference, labeling, prediction and so on. If you have ever seen an IQ test, it would be as if you were to make a

curriculum out of those types of materials, something that scaffolds, where each successive page is a greater cognitive challenge or higher level example of a concept. He called his program "Instrumental Enrichment."

To understand the importance of concepts and cognitive functions towards intelligence, take a moment to consider the student who has a very tenuous grasp of the concept of "time." So he or she is likely to be late, yes, but it's going to affect that student in more fundamental ways. History, as a series of related events over time becomes meaningless. A decade isn't much different than a century. Science, which takes many measurements over time, is hard to understand or connect with. The student's use of the vocabulary of time sounds tinny, something happened "then" or "before" or "later." This time-less student lives mostly in the now, not doing much planning for the next semester, the dimly apprehended time of "college" or "a career."

The student who isn't adept with cognitive act of comparison may intuitively see or know things as different, but not know how to describe those differences in any articulable way. They go to a movie and their main reflection is, "It was cool." Why? "I liked it." When confronted with where they want to live, what school they want to attend (or how to pay for it!), what should be done in some situation, they often will say "I don't know" because, sadly, they actually don't know. They have no relative measures for their own reality.

So this young person, if we combine both of these sad deficits, lives in a very here and now world, with likes and dislikes, but that's about it. I imagine them as if their field of vision were limited to just what's right in front of them, and everything else a blur.

Mediated Learning Experience

The key characteristic about Dr. Feuerstein's Instrumental Enrichment was his focus on purposefully engendering what he called "mediated learning experiences" (MLE) between teacher and learner. Specifically, his materials tried to create a mandatory interplay between the teacher and student wherein conversation, modeling and other purposeful exchanges of understanding were continuously required and designed into the materials. Dr. Feuerstein described the MLE as

a purposeful, intergenerational exchange of knowledge created by an adult mediator (read: teacher) and a learner. Amongst the first publications or articles I ever read in the field of education was a pamphlet Dr. Feuerstein wrote titled "Intergenerational Cultural Transfer." I knew right then and there that I was reading something remarkable.
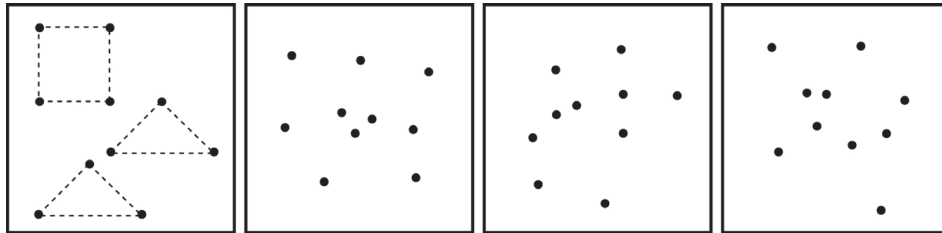
Sample Task – Spontaneous comparison of projected figure to the model.

Looking at his materials, one would notice that Dr. Feuerstein went so far as to leave out the instructions on how to complete the tasks on a page. There were few, if any, written directions on what to do. Instead, teachers had to figure out how to get students to infer the task at hand from examples or models at the top of the page, thereby creating a sort of artificial demand for these mediated learning experiences. The teacher could not simply give or read the instructions directly to the student; there were none to give. Dr. Feuerstein tried to build-in mechanisms to require mediation into his thinking-skills curriculum.

In the example above from a unit called "Orientation in Space," or often simply as "the dots," there is a model given on the left. This unit taught the skills of comparison and concepts like shapes, line segments, overlapping figures, rotation and so on. Notice there are no specific instructions provided. The question is, how could you teach this task to students. The easiest way might simply be to model the task by going to the next frame and showing how the figures are completed, drawing the lines out. However, that process of modeling requires mostly just observation from the student and so the degree of mediation would be relatively low.

A different way to teach this task would be to ask an extended series of questions. The initial question would cue for labeling behavior. What do you see in the first frame? Can you identify the shapes? What

are they made up of? How many times is each dot used? The next questions might cue for inference or comparison. Are the number of dots the same in each frame? Are they in the same place as in the first frame? What can you infer happens to the shapes, if the dots are in different places? Thereafter, questions for organizing, ordering, or summarizing the task could be asked. How will you approach solving each frame? Can you summarize the task at hand? Which figure will you start looking for first, and why? What order works best?

Direct Learning v. Mediated Learning

Though I don't think he intended it at the time, Dr. Feuerstein's emphasis on mediated learning experiences could be said to have contrasted with a different diagnosis about what was thought to inhibit learning, a point of view that that some educators take even now. This is the belief that underachieving students mostly lack exposure to information generally, what Dr. Feuerstein labeled as a lack of "direct learning" experiences. From this perspective, underachieving students suffer a deficit of information and experiences more so than mediation. Let me segue for a moment to discuss this important difference between purposeful mediation of concepts and cognitive functions and trying to fill a kid's head with information or experience generally.

When I began to work in this field in the mid-1990s, I would speak with teachers, principals and parents about why they thought some children didn't learn as well as others. In casual conversations, many would cite a prominent research study that revealed that students from poorer socioeconomic backgrounds heard significantly fewer spoken words in their households than wealthier students. Or they would simply recount how poor kids never got to visit the Lincoln Memorial or Yellowstone like when they were a kid.

Congruent to this, conversations in the education media seemed to reflect a belief that poor achievement was mostly a function of a deficit of 'learning inputs' into the world of the student. In workshops, this perspective would rear its head when someone might ask me, "How can you ask students to think (through questions) if they haven't heard or seen enough information generally?" I would counter, "But haven't the students been in school already for several years?" The gist of most

replies was that school was not a sufficient input of information/experience to make up for their low stimuli childhoods. The students didn't have enough direct learning experiences, was the belief.

Clouds and Car Accidents

I remember my mother used to lament this explanation about why some students failed to learn. She used to say that poor students experienced the world just as other children did with a continuous barrage of stimuli each moment of the day. The problem wasn't the lack of exposure to information, content or experiences reaching low socioeconomic students. It was the lack of good mediation of those same experiences that most all of us have.

I think we must have been walking outside when my mom was talking to me one day. It was a cloudy day and our faces were caught between bands of light and shadow. I thought, "The sunlight falls mostly equally upon us in spite of the shadows." That is, most poor and wealthy students receive plenty of direct exposure to information but, just like my mom said, the quality of mediation by their parents is not the same.

Returning for a moment to that prominent study, in my opinion, it is not primarily the hearing of more words that benefits the wealthy student. It's that behind the words there is the intentional mediation of a learning experience. The wealthier parent is trying to communicate meaning, while the poorer parent is just talking, is one way of describing it. Words without meaning become just so much pablum.

I am often reminded of the substantial difference between a mediated learning event and a poorly mediated event by something that happened to me in the mid-1990s. When I was in law school in Chicago, I lived in a low socioeconomic neighborhood. I saw a mother with four or five children in tow walking along a sidewalk. I soon heard the sound of a car accident. The mother turned her attention to the car accident and encouraged her kids to become excited, "Look at that! Wow!" Quickly, the children became overly excited. On a dime, the mother snapped at her children to stop looking at the accident and be quiet, "Stop looking at that! Get over here! Get back on the sidewalk.

What are you thinking?" The children looked puzzled. Frankly, so was I. I also stepped back on the sidewalk, I admit.

Years later, I was talking with a friend on her speakerphone as she was driving with her young son in a rear car seat. I heard some unusual noise, and I could tell that the phone had slipped from her hands. Knowing I would be worried, she shouted to me there had been a car accident and she couldn't reach the phone. I stayed on the phone to make sure everything was okay and got to listen to her talk to her son. She asked him several questions, "Are you okay, Graeme? I can't see the accident, where is it? Is anybody hurt? How do you know nobody is hurt? Oh, so they are leaving the car and the airbags are on? Do you think I should call the police? Oh, someone has his phone out already? Okay, Graeme, so does this show you why I can't help you play your game on your [gaming device]? And do you understand why you have to stay in the back seat?"

For me, both scenarios came to represent the stimuli that the world brings to students purposefully or inadvertently. We will each see a car accident or sit in a math class or get to read books or watch information on a screen. It's the quality of the mediation more so than the quantity of "experience" that makes the difference in the learning outcomes for the student.

Remarkably, to my knowledge, in his thinking-skills program, Dr. Feuerstein did not describe in any great detail how exactly to create the mediated learning experiences he considered so important. Surely, by structuring his curriculum without explicit instructions, he created a need system for the student and teacher to engage each other from the very start of instruction.

But the means of mediation described by Dr. Feuerstein were fairly broad and included talking or telling or what we might consider to be lecture, questioning, and certainly modeling the learning process for and with students. His point was, the learner's mind (read: cognitive acts) were at each moment the focus of instruction.

Still, Dr. Feuerstein didn't elaborate about precisely how to create MLEs with detailed instruction. Maybe Dr. Feuerstein just got tired after creating the curriculum? With his white beard, I just imagine him

saying, "Eh, on this sixth day, I….forget it. You'll figure it out." I guess it was Dr. Feuerstein's rest day; he was Jewish, after all, as was my dad.

A Desert Discovery

It was my dad, Dr. Lee Hannel, who actually took Dr. Feuerstein's concept of the MLE and focused on how questions could trigger them to occur. When I asked my dad how or why he came to focus on the act of questioning as the primary means of creating mediation, he told me a story that took him to the desert communities of southern California, which at the time were rural, agricultural, poor and mostly Hispanic, and probably still are that way today.

A superintendent in a district there noted that when my dad used Dr. Feuerstein's materials, he relied mostly on asking extended series of questions to bring students to understand what they needed to do. He noticed that my dad did not allow students to decline to be questioned or say "I don't know," and he seemed to have specific strategies for making students participate. He asked my dad to describe his "pedagogy of questioning."

My dad went on to create some handouts that formed what was improvidently titled, "Cognitive Education Methodology for Teaching Content, K-12." It was and is an accurate title of our work, but really wasn't so great for marketing purposes. My dad created a handout of a few pages that listed the basic rules he followed to deal with students who did not want to participate or answer questions, i.e., behavioral deficits. He also described the sequence of questions he used to elicit understanding, i.e., cognitive functions. The list of cognitive functions or steps went deeper than parroting Bloom's Taxonomy, as it also addressed what Dr. Feuerstein called the "cognitive dysfunctions" that students might experience throughout the steps of cognition.

My dad was a big believer in not just lecturing about his questioning strategies but actually demonstrating them in front of teachers with groups of students. During workshops, he would even ask for the more challenging students from a class to form the bulk of the students in any demonstration group. I think he just wanted to prove that the strategies he formalized were truly powerful and would work with low-achieving students, not just the gifted and talented students who often

were the recipients of most classroom questions. For many years, questioning was the province of "GT" programs for the gifted and talented, not the average or below-average student.

An Initiation Into Questioning

I got involved with questioning and teaching mostly by accident. I was a student at Northwest University Law School in Chicago in 1995, my final year. My dad called me at the beginning of the school year and told me that I had to help him give some workshops because his other trainers were busy--and my tuition bill had come in. With nothing more than my dad's outline of behavioral and cognitive strategies, I began to both give workshops and try out the strategies with classes of students during the live student demos. I was literally learning and teaching the strategies on the fly.

My first week of workshops was startling. What most impressed me was when I did the live student demos for teachers. I received a great deal of positive feedback from both the students themselves and observing teachers. I would hear comments like, "Can you be our teacher?" or "I never saw Jim answer that sort of question before." But I didn't feel like I was somehow predisposed to asking excellent questions. I just tried to implement my dad's approach to questioning and it seemed to work. I remember calling my dad up and saying how I was surprised that his strategies were so clearly effective. It was a sort of backhanded compliment, I guess. I miss him a lot nowadays.

I was equally if not more surprised--and remain so--by how many teachers told me that my dad's work was substantially different than what they saw in classrooms or learned in pre-service or during staff development. Indeed, some teachers would tell me that the strategies they were told were often the opposite of what my dad practiced or just felt different. It was like hearing about "opposite-world." It took me a while to accept that most American teachers are not taught an explicit pedagogy or model of how to ask questions to address behavioral problems, cognitive problems or both. I remember thinking it was inexplicable to ask teachers to "fix our kids" and then not give them the practical tools to do so. If you ask someone to build The Great Wall, you might want to give them at least a spade or something.

To this day, this whole lack of teacher-training in questioning strategies still puzzles me. There are only so many ways to describe how teachers actually teach. Lecture, questioning, modeling, experience, experiment and cooperative work all describe pedagogical approaches, but this list is obviously finite. Why isn't a standard model of questioning taught to all teachers? That is one of the few questions I continue to ask myself and have yet to answer. Maybe one day a good model of questioning will be taught to all teachers, but for you, I can only give my model of questioning, which starts on the following page. I hope you find it helpful to your teaching.