

The Tools: Recovering the Classical Model

“Do you ever find that young people, when they have left school, not only forget most of what they have learned (that is only to be expected), but forget also, or betray that they have never really known, how to tackle a new subject for themselves?”

—Dorothy Sayers, *The Lost Tools of Learning*, 1947

In the 1990's, I was fortunate enough to read classical educator Doug Wilson's *Recovering the Lost Tools of Learning* around the same time that John Gatto, who quit teaching after winning NY Teacher of the Year, was writing books about the ineffective teaching techniques currently used in US schools. A glimmer, a very small ray of light hit my heart like a laser beam. I began to question all that I knew about learning. I began to recognize ingrained thoughts that were lies. I began to see how to use my natural learning strengths to bolster the areas where I was weak. I had a hope in my heart that I could teach Robert and John the study skills I had begun to learn, though I didn't understand them, in college. I began to understand why my husband and his peers, who are about ten years older than me, were

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better educated. I had always been a thinker, but now I had a new paradigm to push my thoughts through.

I learned that good teachers had always fully understood that learning any information is a three step process. As Dorothy Sayers describes

it, I must first behave like a parrot, meaning that I practice repeating back basic vocabulary and ideas and concepts of something new. Every subject needs to be attacked by a student like a foreign language, for every subject has its own lingo, jargon, or grammar. For instance, I have been trying to learn about paper quality for the various materials my production company creates. I can't just order a bookmark and expect that the product I had in mind is what will arrive in the mail and was produced at the best price for the quality. I have to learn the names of various paper weights, paper glosses, laminate thicknesses, and different margin bleeds. I need to memorize the grammar of a printer. Once I understand what these terms mean, I can email a file to any printer on the Internet that has the best prices and send instructions like, "I want linen paper at 100 lb weight, 3-hole punched, double-sided, black and white, covered with a clear 2 mm laminate" and get what I want. Then I can teach someone else how to order bookmarks for me. If I can teach new ideas to others using the specific language of a subject, I am educated in that field. I have the skill to learn anything if I know how:

1. to memorize vocabulary and rules (also called grammar)
2. to process new concepts (also called dialectic)
3. to clearly explain the grammar and dialectic to others (also called rhetoric).

I apply the same thinking process to learning any new academic material. I look through a new chemistry chapter and read the relevant summary, glossary, bold-faced letters, pictures, and graphs trying to get a general grasp of what the author is going to say. Then I read through the chapter taking notes and using a dictionary. This is how I build my ability to read difficult or new ideas with understanding. The chapter will be hard for me to just read and enjoy if I don't understand the subject's basic vocabulary. These two exercises are often enough to make the content more meaningful and easier to read. Then I reread the chapter with a calculator in hand and work out any mathematical concepts or try any exercises. At this point, I am gaining understanding, and I am impressing the information to a place in my brain where I can retain and use it. Once the grammar is understood, I can just read that chapter's text with the ease of a novel and rework the math problems and demonstrate that I actually understand the material by taking a test or participating in a discussion. Tests and conversations are ways to clarify errors in thought so they can be restudied.

Together, these skills are referred to in Latin as the trivium, or the three roads - grammar, dialectic, and rhetoric - in classical education models. But those terms sound so academic that we often can't see how they apply beyond the study of English or writing. So let's rename these skills as:

- the ability to input information,
- the ability to process information,
- the ability to output information.

According to Scripture, we were designed to fill our brain with knowledge, understand its implications, and then use the information with wisdom.

By wisdom a house is built, and through understanding it is established; through knowledge its

rooms are filled with rare and beautiful treasures. A wise man has great power, and a man of knowledge increases strength. Proverbs 24: 3-5

Education through Grammar

“But first: what age shall the children be? Well, if one is to educate them on novel lines, it will be better that they should have nothing to unlearn; besides, one cannot begin a good thing too early, and the Trivium is by its nature not learning, but a preparation for learning. We will, therefore, “catch ‘em young,” requiring of our pupils only that they shall be able to read, write, and cipher.”

—Dorothy Sayers, *The Lost Tools of Learning*, 1947

Grammar in 19th century dictionaries is defined as the science of vocabulary. Every new task, idea, or concept has a vocabulary that must be acquired like a foreign language before a student can progress to more difficult or abstract tasks within that body of knowledge. There is a science or system that the vocabulary defines, describes and organizes.

It's hard to evaluate an historian's analysis of world events if you don't know the names (the grammar) of the people and places and dates he's referring too. You can't analyze the "Why's" of history if you don't first know who, what, where, and when. It's hard to know if your car mechanic is dishonest or giving good advice if you can't decipher the grammar of his diagnosis. "The 'what' is rubbing against the 'which' when the cylinder pushes past the 'how' and you want \$600?" Or say you're applying for your first home loan and you keep hearing words like "interest only", "variable rate", "amortized" and "Please sign here..." The interest only mortgage boom in the 2000's financially destroyed many families who didn't understand basic multiplication.

Every subject is like learning a foreign language until you have a basic grasp of vocabulary and the main ideas associated with the topic. This is called grammar — words and how they work together. Mathematicians have a special grammar; physicists have their own jargon; archeologists and cooks, dancers and musicians all have a ‘lingo’ they use. To learn something new, we must first try to discover the grammar that an expert in that field uses. So the first tool of learning is “Learn the Grammar.”

How can we teach our children to do that? Let me begin with a view of the possible rather than the impossible. Let me prove to you that people are all geniuses, designed to store and manipulate large amounts of grammar. Imagine the grocery store you shop in. If I asked you to tell me where the eggs are so I could run right in and grab them, would you be able to do so? Of course you could. The average grocery store carries over 30,000 items and you can quickly tell me where to find most of them. Why? Because it is organized by category, and you have shopped in similar stores repeatedly. In other words, you’ve seen those items over and over again in an organized way making it easy for you to memorize the store. You can categorize 30,000 items in one location.

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You also have memorized great detail about every item. You know which are fresh and which are processed. You can read the ingredients labels on items you purchase regularly and make choices based on quality and price. You can go home and taste the item, determine if you like the taste, and then remember that information when you go to purchase the product again. You learn which butchers point you to the best meat and which produce managers will get the latest shipment of fruit from the back refrigerator

for you. You learn the store's marketing system and discover the best times to shop for the best prices. You manage whole fields of information associated with thousands of items in just one of the very many stores you visit each week. You are a genius!

Well, I propose a good education teaches a child how to build a grocery store of the mind for every subject. You not only feed children information to put on the shelves of the mind but help the student see ways to organize the information for quick retrieval. So when the mind searches for an idea or fact, you have a place where the mind's eye goes to either retrieve currently stored related facts or "shelve" new facts. If your grocery store started carrying organic eggs, they would have to decide whether they would put them in a new organic section, or with the current eggs, or maybe in a new temporary, promotional location in the front of the store until customers knew it was regularly available to buy. We need to teach our children to do the same thing with new facts. Are there multiple ways to pronounce a word? Is there more than one way to write a mathematical formula? Do I file a fact in just one place because I'm new at this grammar and I need to retrieve it easily until I understand

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it? Or can I file it in multiple brain locations?

So, to build the brain's knowledge store, you have to begin memorizing systems. You do that by visiting the "store of words" for any particular subject many times in an organized manner. For a student, it means repeating data (revisiting the store) in an orderly fashion (filling the shelves). So we instruct students to repeatedly draw the same continental maps as we build the geography aisle. Then eventually each continent has

a shelf. We repeatedly chant the same multiplication and addition tables and laws of math as we build our math aisle. Eventually we can pull down the identity law off its shelf to use in the “balance the equation” recipe. We repeatedly list the same history timeline as we build our history aisle. Eventually, we can pull down the items “Hitler”, “Napoleon” and “Alexander” to mix into our analysis of despotic rulers. We work consistently for a long time until the hard is easy. Whenever we add a new ingredient to the shelf, there is a place for it to logically live.

When the organizational system is mastered, which means quickly accessible and confidently retrieved, the information becomes very useful and can be dialectically synthesized into any new idea. So the first step is rote memorization like children have always had to do. Remember that every child learns to speak from infancy through repetition and memorization and orderly associations.

When I say memorize information, I mean it in the truest sense of the word. You have that information at your fingertips always, like the Alphabet Song, or The Pledge of Allegiance or The Lord’s Prayer. I am not talking about something recited for a season and then forgotten. That’s why we are building an organized storage system with key ideas forming the aisles and shelves. Some facts may fade and ebb, but we work on just enough information to provide a framework of shelves that never disappears.

Education through Dialectic

“We are living in a time when sensitivities are at the surface, often vented with cutting words. Philosophically, you can believe anything, so long as you do not claim it to be true. Morally, you can practice anything, so long as you do not claim that it is a ‘better’ way. Religiously, you can hold to anything,

*so long as you do not bring Jesus Christ into it.
If a spiritual idea is eastern, it is granted critical
immunity; if western, it is thoroughly criticized.”*

—Ravi Zacharias, *Jesus Among Other Gods*

The dialectic stage of learning is often referred to as logic or critical thinking skills. I prefer to think of it as a dialogue to clear reasoning. The easiest way to explain the dialectic is to use examples. For instance, when I'm teaching Latin, I use the grammar rules the students have already learned in English to help them figure out the rules of Latin on their own.

I may write the words “who” and “whom” on the board, and tell the students that “who” is the subject noun (also called nominative) and that “whom” is the direct object noun (also called accusative). If we add an “m”, we change the word from subject noun to direct object noun. Then I'd write the Latin words “elephantus” and “elephantum” on the board and ask the students to tell me which Latin word for elephant is the direct object. I may say, “If we add an ‘m’ to ‘who’ in order to make ‘whom’ the direct object, what do you think might be a clue for the Latin direct object?” Of course, elephantum is the direct object. So we can establish a preliminary rule that adding an “m” indicates the word is a direct object.

More Latin examples, like “gladius” and “gladium” may confirm the new rule. Eventually, we don't have to think so hard because we recognize that every time we see a noun end with an ‘m’ in Latin, it is probably a direct object. We are now able to process the grammar, understand the rule, use the facts. We are thinking dialectically. The

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dialectic skills are easier to teach if the student has a firm base of grammar — rules and vocabulary — to associate with new ideas.

Here's a dialectic process needed to score high on the SAT. Please take the time to think through the problem and notice how you use math facts you know and use them to teach yourself what you don't know.

If I tell you these formulas:

$3 \times 3 = 9$ $2 \times 2 = 4$ and $9 + 4 = 13$ is the same as $3 @ 2 = 13$

$4 \times 4 = 16$ $5 \times 5 = 25$ and $16 + 25 = 41$ is equal to $4 @ 5 = 41$

Could you tell me the answer to $3 @ 5$?

In other words can you take the two examples of a rule and apply it to a new problem? Can you compare what you already know with a new definition and gain new understanding?

You should get $3 \times 3 = 9$ and $5 \times 5 = 25$ and $9 + 25 = 34$, so $3 @ 5 = 34$.

In order to define the new rule of “@”, we had to use our addition, multiplication, and equality definitions from our math shelf, sequentially and logically think through the example, while holding previously learned definitions in our head, and then apply them to a new symbol. In the process, we developed an understanding for the definition of “@”.

Dialectic skills are best practiced with puzzles, discussions, and group interaction led by an enthusiastic teacher. Dialectic skills are academically formalized through debate, algebra, and experiments.

So when, I say “dialectic” I think about “dialoging” with a student. A live person is needed, not a machine or book. This is the step of education where large classes and computers are ineffective. This is where we need to copy Jesus’ model of discipling a few students at a time to be

effective. It requires a teacher to help the student appropriately question information, hold together many ideas, and develop logical conclusions.

Education through Rhetoric

“Rhetoric may be defined as the faculty of observing in any given case the available means of persuasion.”

—Aristotle, *Rhetoric*, Chapter Two

Rhetoric is a well designed course of study formalized by Aristotle and usually taught as a course in classical universities and some high schools. Rhetoric has come to mean “sound bite” and propaganda to moderns. To classical, Christian students, it means to practice very specific skills in order to be the most persuasive in expressing truth, goodness, and beauty.

Rhetorical skills are the final tools needed that give students the ability to study and learn anything they set their minds to. Almost any skilled person you encounter must have these tools to be successful in his/her field.

For example, a good car mechanic is usually a great rhetorician. First, he learned his grammar. He knows the names of all the parts of the car engine. He knows the vocabulary of his field of expertise. He learned this by spending a lot of time around cars and car magazines and car people and maybe even auto-mechanic school. He

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isn't trusted if he can't explain the purpose of a carburetor and a cylinder. Second, he learned to process the facts he knows about car engines. He learned how the parts of the

car worked together. He can diagnose why one part of the car is making another work improperly. He learned this by spending a lot of time around cars and car magazines and car people and maybe even auto-mechanic school. He isn't trusted if he has to make multiple repairs before figuring out what is wrong with a vehicle. Lastly, he learned how to use his knowledge wisely. He knows how to explain to non-mechanical people what is wrong with their car, make a correct diagnosis, and even train others to know what he knows. He is a rhetorician in the field of mechanics when he can persuade others to repeatedly give him money to repair their cars and when customers even tell other people to use his services.

You can repeat the entire paragraph above by substituting the word 'surgeon' for 'car mechanic' and the idea of body parts for car parts. We have trouble trusting a surgeon with a bad bedside manner. Trust comes from more than knowledge; we need to know how to wisely share that knowledge in order for us to be useful to the greater community.

A good historian goes through the same process. She learns history grammar such as a basic timeline of events to give her a mental framework on which to set new information. She learns basic geography so she can figure out where events happened. Then she learns how to process this information. Why did Robert E. Lee choose to join Jefferson Davis instead of Abraham Lincoln? What events in Lee's life made him take such an unusual stand? Geography, faith, and politics were major factors for Mr. Lee. The historian can logically analyze the facts (the grammar of her subject) and form coherent conclusions.

How come we expect athletes and musical performers to practice boring things over and over until they can make the difficult seem effortless, yet we don't expect the same from our children in math, reading, and writing? Why do

we think education should be natural, experiential, and fun? We should expect all students of reading, writing, and arithmetic to strive for the same disciplined lifestyle of a great musician or professional athlete.

Recovering the classical tools of learning allows each of us to tackle new disciplines, even difficult subjects.

C.S. Lewis declared that we teach our students far too many subjects far too poorly. Yet modern parents think it is normal to have their children survey six subjects a year, while mastering none of them. I think it is better to teach your children to read, write, and cipher well in every subject and then allow your children to build upon these basic skills. Excellence requires perseverance, sweat, wrestling, time, tears, and just plain labor. If you teach yourself the skills of grammar, dialectic, and rhetoric, and then pass them onto your children, even difficult subjects become accessible for your entire family. Recovering the classical tools of learning allows each of us to tackle new disciplines, even difficult subjects. That's when the tools of learning become practical and personally empowering.