

WHY SHOULD I LEARN THAT?



ESSAYS ON THE
IMPORTANCE OF LEARNING

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What should be taught?

This has become an important question for me as the father of an almost 2 year old child. The world of education is filled with theories on what children need to learn and how best to teach them. I think we can safely say that we want our children to end up happy, healthy, well-adjusted, self-actualized, self-sufficient, contributing members of the human community. The question is how do we help them achieve these ends. In current terminology, what are our learning outcomes?

I actually dislike the "learning outcomes approach" in general because, among other things, it presumes that we can push the right buttons in our students and they will automatically respond. But, in reality learning is each individual's own responsibility and what educators can do best is set the stage and create supportive conditions for children to have the best chance of learning and succeeding in their education. Ideally, educators should be mentors.

But, even though there are problems with the outcomes approach to education, it does make sense to ask what some general goals should be for educating our children, whatever model we choose to foster these goals. I think some of the most important goals are as follows (I've placed the specific subjects from my curriculum in parentheses that seem to support the specified goal):

Creativity: The ability to be creative, in both one's personal as well as professional life, is an important skill and one that too

often seems to be educated out of children. To foster this skill it is important to expose children to many different forms of art as well different ways of thinking about things in general. This is one of those skills that can be easily incorporated into almost any subject but it can also too easily be overlooked in an effort to teach a specific subject in a specific orthodox way. (Art, Poetry, Plays, Thinking)

Problem Solving: One of the main reasons to foster creativity is to help improve problem-solving skills. This is a component that can also be easily integrated into almost any subject as an active part of learning. The emphasis here is on the application and use of knowledge as opposed to the mere acquisition of knowledge. (Math, Thinking)

Life Skills: By the term "life skills" I mean several different things. Certainly this would include such areas as finance (i.e. saving/investing/debt management), time management, and cooking but it should also include interpersonal skills as well to foster the ability to get along with others, form lasting friendships, romantic relationships, and work related skills. (Life Skills)

Literacy: This obviously involves the first two of the 3 R's: Reading and Writing. But I think literacy also involves good communication skills in general and so should include public speaking. Also, to be included in this broad area is cultural literacy and a familiarity with literature and language. (Language, Reading and Writing)

Numeracy: The third of the 3 R's: Mathematics. But, numeracy entails something besides knowing the basics of algebra, geometry and calculus. More importantly it involves having a good sense of numbers, being able to understand and use

statistics, and having a good handle on practical everyday math. (Mathematics, Thinking)

Self-Learning: Ideally, learning is not something that stops once a child finishes school and graduates. Learning is a life-long process and one that is largely in the hands of each individual. The best we can offer to our children is a set of good learning skills such as those mentioned above and a broad exposure to the basics of human knowledge. Along with this we should cultivate in them the ability to learn on their own since we cannot hope to teach them everything they will ever need to know in their lifetime. We can get them started and encourage them to keep learning but where they end up and what they need to know to get their is to some extent out of our hands.

Having said that, I think the case can be made that there are some specific subjects that ought to be taught as a way of fostering these general skills and broadening our children's horizons.

The Utility of Learning

Before I begin this series on the importance of learning various subjects in common course curricula, I thought it might be useful to pause a moment to ponder on the connection between utility and learning. The question "When am I ever going to use this?" is the bane of every teacher's existence. What it implies is that the only things worth learning are those that will be used. I will be arguing in the forthcoming series that you can make a utility related argument for each and every major subject in the

curriculum but what if you couldn't make such an argument? What if a particular subject such as history or music or philosophy had no use? Is it no longer worth learning?

There are several problems with using utility as the sole criterion to determine what ought to be taught and what ought to be learned. First, there are other good reasons to learn most anything. Second, there is really no way to predict what specific subject or part of a subject will be useful to someone in the future with any accuracy.

Why should we only be interested in learning things that are useful? As the physicist Richard Feynman noted, a sufficient reason for learning is simply "the pleasure of finding things out." So what if you don't use what you've just learned? It is simply inherently enjoyable to learn new things; or it should be. While not everyone will enjoy learning the same things, if you find no joy in learning something new independent of whether you will use the knowledge this is not a problem with the subject matter itself but may be a problem with your attitude towards learning. By emphasizing utility we have trained students to only value that which has immediate and obvious utility and this is a mistake since it deprives them of this joy of learning.

To say that the only things worth learning are those with utility implies that we can know with certainty what will be useful. While this may be true in the short-term, it becomes more difficult to judge the utility of a subject the farther ahead and more long-term we look. As another physicist, Niels Bohr, once said "prediction is difficult especially about the future." We really can't know what specific subjects or parts of subjects will be useful in the future. If we only teach what seems practical and useful in the present we are surely robbing ourselves of useful insights and learning that will serve us well in the future.

But, I can hear the criticism from some already. There are some subjects that have never been useful to anyone. Some things are just pointless to learn. I hesitate to list what some of these subjects might be but perhaps you already have one or two in mind. If so, I invite you to join me over the next dozen or so blog posts as I try to lay out the case for every major subject being important to learn. I will be focusing mostly on utility but I hope to have shown here that there is no reason to concede the argument for learning something just because it has no obvious or immediate utility.

The Importance of Art

We begin this series on the importance of learning the various academic subjects with art. From there I'll be proceeding alphabetically through the curriculum. Art is often the first subject to be cut when budget constraints loom and this is likely because it seems less central to learning. After all, what practical values are served by learning art?

As I tell students in my introduction to logic course, many subjects have an indirect value to education. That is, while learning the subject matter may not seem practical, the act of learning itself is valuable. For most courses though it is possible to determine direct and indirect values so let's look at art in this light.

By art I mean the visual, plastic arts such as painting and sculpture. The importance of learning about these arts is not only in studying past works but in practicing art as well. Why could learning about these arts be valuable? There are several

benefits including improving one's skills in abstraction, imagination, and creativity.

Abstraction: For much art, even representational art, learning to appreciate it encourages the ability to reason in the abstract. Since art involves the use of symbols to convey concepts

Imagination: Another benefit of studying art is to improve one's imagination. While studying past works of art helps improve one's ability to reason in the abstract, practicing art helps fire the imagination.

Creativity: Related to this is the benefit of improving one's creativity. One of the central values of any education is fostering creativity. Not only is this a vital skill in your work life but it is also one of life's important values.

Finally, I should mention the fact that art provides an important means of understanding and appreciating beauty. But, still, one can ask what is the practical value of improving one's abstraction, imagination, and creativity. Art allows us the opportunity to see the world in new ways with minimal risk. We can try out new options, new perspectives, and new ways of approaching life and its problems in a risk free space. As Morse Peckham points out in his book *Man's Rage For Chaos: Biology, Behavior, and the Arts*, "art is a rehearsal for the orientation that makes innovation possible." In a world driven by information and innovation, what could be more practical?

The Importance of Astronomy

At some time nearly everyone looks up in the sky in wonder. There are so many stars, galaxies, and empty space. Are we alone? Could there be other planets which are teeming with life as Earth is? Did everything really begin with a Big Bang? So many questions but they seem to have no answers. Are the benefits to studying astronomy even if such questions cannot be answered. Let's look at it.

Questions such as the ones listed above should seem important in and of themselves whether or not the answers are easily found or whether the answers have any practical significance. The study of such questions seems to be a deeply human exercise and one worth the time and effort.

Perspective: Sometimes our problems seem so immense and, our accomplishments so outstanding, our importance as humans a given. But, contemplating the universe and its origins helps to put our own lives into perspective. We needn't feel any less proud of what we've accomplished or feel that our lives have less meaning in the face of such contemplation. However, sometimes it is useful to contemplate something larger than ourselves and

consider how we fit into it. What could be a more appropriate subject of such contemplation as the universe?

Orientation: Closely related to perspective, knowing where you are and how you relate to others is of fundamental importance (and an important aspect of learning geography which I will address in a later post). Certainly orienting yourself in the larger context of the solar system, galaxy, and universe completes this process.

Understanding: Our attempts to discover the origin of the universe have also contributed to our understanding of the fundamental nature of reality which is, at least partly, explained by two major scientific theories: relativity and quantum mechanics. Each of these theories provides surprising, and surprisingly useful, insights into how the world we inhabit works.

Exploration: A fundamental human drive to explore can be satisfied, if only indirectly, by studying the solar system, our own galaxy, and the universe as a whole.

The very rhythm of our days, months, and years is set by what happens in the world that astronomy explores. Recognizing this and understanding it fulfills fundamental our human need to explore, understand, and satisfy curiosity. Observing the movements of the moon and stars puts us in touch with something larger than ourselves, forces us to re-orient our perspective and sense of time, and in a busy, hurried, stressful world in which we live, such values are important to remember and cultivate in a way that studying astronomy uniquely facilitates.

The Importance of Biology

It would seem fairly obvious that biology is important. As the study of life, an understanding of biology is critical to many areas of our lives including our health and well-being. In addition to this, understanding biology allows us to appreciate what Richard Dawkins calls "the greatest show on Earth:" evolution. In addition to some standard reasons for studying biology I want to examine some other values that biology helps to foster.'

Health: A common argument for studying biology is that it helps us understand how to improve our health and diet. No doubt this is a good reason and the most practical one to examine. What could be more important as a basis for living a good life that to be reasonably healthy?

Interdependence: Life on Earth is interdependent in many different ways from predator and prey to symbiosis. Studying biology places us firmly into this interdependent web of life.

Ingenuity: The demands of survival in the wild lead to some pretty ingenious habits in plants and animals. Not only are these amazing and interesting to learn about but can potentially provide inspiration for human problem solving as well.

Endurance: Life thrives in the most unlikely places from deep in the ocean, hidden in dark caves, freezing and near boiling water. All demonstrate the endurance of life. As the Jeff Goldblum character in Jurassic Park said, "life finds a way." Again, not only in this immensely interesting to learn about, it can be inspirational as well. No matter how difficult our lives seem and how insurmountable our problems appear, there is always a way to endure and prevail.

Evolution: One of the most important, not to mention well tested and observed theories in science is the theory of evolution by natural selection. Understanding this theory is a major step in anyone's education as it is often counter intuitive and not immediately obvious or easily observable on the short time span of a human life. But, understanding it ought to be a major goal of the study of biology and is a rewarding pursuit. As Darwin recognized, "There is grandeur in this view of life." What better argument for studying biology than the appreciate of such grandeur ad an understanding of our place in it.

The Importance of Chemistry

I remember as a kid being very bored in chemistry class. A few experiments here and there and a mountain of equations somehow could not compel me to curiosity for molecules and chemical reactions. How unfortunate. Chemistry is not only fascinating to study and practice but important as well. It is a window into the foundations of biology and physics and can provide insights both practical and interesting.'

Foundations: At the core of both biology and physics is chemistry since this science addresses how molecules interact and connect with each other. Any understanding of how things work in the world, both organic and inorganic eventually comes down to chemistry. Of course, this begs the question, why should anyone care about understanding how things work in the world at all?

Health: One reason to care about understanding is that it is good for our health. What we eat, how it is cooked, and how it is digested are all functions of chemistry and understanding the

chemistry involved is an important step towards taking charge of one's own health.

Connections: Chemistry is about how molecules connect and interact but can chemistry give us any insight into our human and social connections? Perhaps. Often in chemical reactions the result is much different in composition than the original inputs. Dangerous elements can mix to create beneficial molecules; salt is a good example of this. Unexpected results are a part of connections in life as well. Benefits come from such connections all of the time.

There are so many practical benefits to the study of chemistry it is hard to provide a broad overview in such a short space. But, if you think about it nearly every part of your life is related in some way to chemistry. What you wear, eat, drive, where you live, the air you breathe, what medicines you take. All of these areas of your life where you have to make decisions would be enhanced by some working knowledge of chemistry. So, take a look around and see how your life is touched by chemistry and begin to study these areas on a molecular level. You never know what you might learn and what connections you might make!

The Importance of Economics

Surely one of the easier subjects to show the importance of is economics. Yet, while it has obvious practical benefits it seems to be rarely taught well or with an eye towards understanding fundamental principles or how they apply in the real world. Economics courses seem to be heavily skewed towards explaining theory but not practice. That is, when such courses are taught at all which is often not the case in primary and secondary schools. No wonder people's money management skills are often so poor.

Money Management: Of course, this is the main practical benefit of learning about economics. While the study of economics, in and of itself, will not make you wealthy, failing to learn and apply basic principles of saving and investing will surely keep you poor. Millions of people were raised to believe, and many still do believe, that investing is nothing more than gambling and no more reliable as a way to build wealth and financial security than buying lottery tickets. Still more believe

that credit cards represent free money and have already spent their next raise without ever seeing the money. The study of economics is a good first step towards fixing some of these problems both in one's personal life and in our nation which also suffers from poor economic thinking and planning.

Value: The notion of value is important both in economics and life in general. Thomas Sowell points out that many people wrongly criticize economics by pointing out that there are also such things as "non-economic values," to which he responds by saying that of course there are non-economic values. In fact, there are only non-economic values. Economics is not a value itself but a way of determining the costs and benefits of trading one value for another.

Trade-Offs: The notion of trade-offs is a difficult one for many to accept. In a complex world we often want simple solutions but as often as not there are not solutions to problems at all, only trade-offs. We can spend more money on groceries only if we are willing to spend less on shoes. We drive safer by slowing down only if we are willing to spend more time on the road. Many areas of life involve such trade-offs and economics provides a clear method for thinking through how to make these trade-offs in the best way possible.

Planning: In *Basic Economics*, Thomas Sowell writes about his experience as an undergraduate in economics: "When I was an undergraduate studying economics under Professor Arthur Smithies of Harvard, he asked me in class one day what policy I favored on a particular issue of the times. Since I had strong feelings on that issue, I proceeded to answer him with enthusiasm, explaining what beneficial consequences I expected from the policy I advocated.

"And then what will happen" he asked.

The question caught me off guard. However, as I thought about it, it became clear that the situation I described would lead to other economic consequences, which I then began to consider and to spell out.

"And then what will happen after that?" Professor Smithies asked."

This continued for several more rounds until: "By now I was beginning to see that the economic reverberations of the policy I advocated were likely to be pretty disastrous and in fact, much worse than the initial situation that it was designed to improve."

The world is filled with such examples of the failure to think things through beyond the first stage. As the economist Bastiat pointed out, good economists see beyond the visible consequences of their actions to the less visible and unintended consequences. While not immediately visible itself, this is one of the most important benefits of the study of economics.

The Importance of Ethics

The more I teach courses in ethics the more convinced I become that people are not being taught basic ethical principles at all; either in the home or at school. I say this not because people are behaving more unethically than ever before (although there is much of that going on) but because of how my students talk about ethics. They seem genuinely confused about what should be some very basic principles in ethics which, if taught, could have a positive impact.

The case for teaching ethics really comes down to what Aristotle said. The person who acts virtuously is simply happier in their

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