

The Debate over AP/Science Streams versus General Education

David Kristofferson from *The Highlands* · 3 Feb 2016

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Once again, the "Supporting our Public Schools" thread is diverging into multiple topics, so I am reposting this important, specific topic into a separate discussion. Anne's original comment is summarized below but can be referred to by looking at the discussion named above.

Anne made several interesting comments above about the high expectations that immigrant high tech workers in Silicon Valley have for their children, and how the AP classes in the U.S. are really regular classes for kids in the science stream in many other countries like China, Korea, Japan, Europe, India, etc.

I replied briefly yesterday that I am familiar with this streaming system having taught in the Peace Corps in Malaysia a long time ago. At that time in 1975-77, they followed the British school system, used the UK curriculum/textbooks, and streamed kids into the sciences or humanities after a test given to students following our equivalent of 9th grade. I taught physics and math to 10th and 11th graders (not Malaysia's grade names), from algebra up through and including calculus, to students who were in both streams.

The higher classes were much more advanced than ours were at that time. However, the test after 9th grade basically closed opportunities for kids for the rest of their lives if they went into the humanities stream. They were not allowed to move up to the science stream, but the science stream kids could drop down to the humanities. I will set aside for the moment commenting about the obvious cultural statement regarding the merits of these two disciplines, but Malaysia clearly had a desire to pull their people out of poverty quickly, and has succeeded to a large degree.

I will first express the side of me that supports Anne's desires, but in the end, I will explain why I think the way we do things in the good old USA is superior. Americans are renowned flaunting "American exceptionalism" and for telling the world how to live, so why should I be any different ;-) !!! But first, sit back and enjoy while I "stick it to America" before I come to the defense of her ideals (from which she has unfortunately fallen from grace).

I returned to teaching primarily because I did not like the direction in which I saw our schools going. Given the fact that we in the U.S. seem to view high school either as a place where kids go to dance and sing on classroom desktops and go on to become celebrities (note the popularity of the TV show "Glee" for many years) or as primarily a big sports camp, I am not surprised that immigrant high tech workers might think that Americans are a bunch of stupid rubes who are coasting on the fruits of past generations' efforts. I have a great story about a student comment from my time teaching physics at Serra which I will save for later. I remain dismayed about how often sports time takes precedence over learning when I try to make up my tutoring schedule each year.

A few years ago I had an education technology training session during a teacher development day at Serra HS which culminated in the trainer showing the winning video from a competition between two schools in

Oregon. He was really proud of the winning video, and it WAS an amazing production. They basically had the whole school participate in producing an MTV-quality music video that was filmed through many halls and classrooms of the school and featured a large number of students and faculty singing, dancing, rapping, etc. Clearly everybody was having a great old time. However, being an old curmudgeon, I was disgusted. Here we were in a teacher training session, supposedly to use technology more effectively for education, and what do I see other than the triumph of MTV over our educational system!! Of course, America makes a lot of money from our movies and entertainers, and the ones who make it in that industry do live “the lifestyles of the rich and famous,” but these are an extremely small fraction of the overall population, and setting this up as the role model for our kids guarantees failure for the vast majority of them. Do Americans want to become the court jesters of the world?? Sometimes I fear that they do.

Meanwhile, CBS portrays scientists and engineers as horny, maladjusted, socially-inept nerds in *The Big Bang Theory*. Don't get me wrong. I love watching *The Big Bang Theory* and apparently so does Steve Wozniak and famous scientists like Stephen Hawking and George Smoot who put in cameo appearances. It is hilarious, and I often plunk myself down on the couch and watch reruns at the end of my long day before going to sleep, BUT I know the reality of the science world. Most kids, and even teachers who just went to undergraduate school and then got a teaching credential, do not, and I often wonder if, despite the great humor, it is subtly sending the wrong message to the impressionable.

Having made this Donald Trump-like soapbox speech which might seem to put me on Anne's side of the debate, I have to state that the story is much more complicated than our often cynical, gut emotional reactions above would lead us to believe.

The United States is a well-established democracy (though it may be heading towards plutocracy...). The goal of public education has always rightfully been the development of well-rounded and well-informed citizens who are capable of self-government. How effective we are at meeting this ideal is a debate for another time, but the ideal itself endures, dating back to Thomas Jefferson and his colleagues among the “founding fathers.”

Countries like China, Korea, and even Malaysia were/are either not democratic at all or had major restrictions/problems with their democratic processes. As I said above, they had a desperate need in many cases to pull their citizens out of poverty, and tried to do so by developing a technocratic elite as quickly as possible. This often meant that many people were rapidly put through intensive scientific/technical training. Anyone showing talent tended to be shifted immediately to better schools in Malaysia, but those who did not were often left behind.

I have many friends of Asian origins, and I have heard how their parents pushed them into various professions which they sometimes did not enjoy. This gets back to my earlier post “Nothing great was ever accomplished without enthusiasm!” I will be the first to admit that if a student is really fascinated with math or science and desires to study it day and night, they may do much better under a streamed system. They may not regret missing the study of literature, history, music, the arts, etc. I have known a few such people who were phenomenally successful in their field and I and other Americans had a hard time competing with them.

The U.S. public school system, however, was never intended to cater primarily to this small group. Instead it's

purpose has been to focus on well-rounded education for the general population. If funds are available to also cater to special needs, then by all means, do so. But this should NOT be done at the expense of the primary goal.

Many high tech immigrants came to this country to take advantage of opportunities not available anywhere else and also to have the freedom to do so. The U.S. attracts such people now and has always done so. Look at how many European scientists came here as refuge from World War II, foremost among them Einstein.

This concept of freedom and the capacity for greater and happier human development is why I believe the U.S. public school system should continue to focus on broad general education. Specialization in this country happens starting as an undergraduate in college and especially in graduate or professional studies. I advise my students to learn everything that they can, and do not close doors to other fields any earlier than is necessary.

How many children (or adults...) really know “what they want to be when they grow up?” How many children develop a bit later than others? Why should they be branded for life at 9th grade? The only justification to do so is if a country is poor and resources are severely limited. That is not the case here (at least not yet).

This is NOT a license for “kids gone wild.” I believe that parents do need to push kids a bit and keep on top of them, because, like a physics teacher friend said, “Kids are like electricity. They take the path of least resistance!” But they should be pushed to get a quality education in ALL areas during high school and not pushed to choose a career in high school before they have discovered for themselves what their calling is.

“Nothing great is ever accomplished without enthusiasm.” That is always true of those who make the major breakthroughs, start amazing companies, etc. To kill that in a child and turn them into a test-cramming drone is criminal.

I would NOT want this country to become like Korea with its cram schools, which are also apparently common in mainland China, and even the Koreans have started to realize that they do not want to be like Korea either. This is why I recommended the book by Amanda Ripley earlier and will do so here again. Americans need to learn about what is going on in other parts of the world and not just sit back and chant “USA”:

<http://www.amazon.com/Smartest-Kids-Worl...>

The effect of this kind of parental fostering of foreign cram school mentality was also cited in The Atlantic cover article about the problems in the Palo Alto schools.

Let me hasten to add that I am not implying any such motives to Anne personally in my reply to her. Reading her posts, I am sure she is greatly concerned about her children’s welfare and I am supportive of her efforts on their behalf. I have had a lot of direct experience in dealing with “the system” and understand her frustration. I am simply trying to explain why we do things the way we do them here. If the yearning is there to dive deeply into math and science, I hope her kids have the opportunity to fulfill their desires.

Unfortunately, we are not living up to our own ideals and providing a well-rounded high school education nationwide. Because of all of the competing special interests/needs I worry that U.S. schools are being pulled in all directions. In my not so humble opinion, they will do best if they make sure that they keep a high quality, well-rounded education as their number one priority and only attend to special needs when additional, not only core, resources are available. Social engineering, GATE, special education, etc. should be attempted only AFTER the primary goal is under control, which currently does not seem to be the case.

There have always been private alternatives for these other priorities, but I know that these are often beyond the financial reach of people who need these services. If we can convince the public to fund all of these needs in the public schools, then we can have the best of all possible worlds. If we can not, then we need to focus on the core mission and do it well first, not try to do everything and fail at everything.

Currently we are trying so many experiments that it reminds me of my favorite snide compliment from Winston Churchill with which I will close this article.

“You can always count on Americans to do the right thing after they have tried everything else!”