



## Book Review: *Einstein, His Life and Universe*

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I just read Walter Isaacson's book, *Einstein, His Life and Universe*. While long, it is very interesting, especially the parts concerning his personal life and the type of person he was. Isaacson's discussions of physics and quantum theory, to say nothing of the Theory of Relativity and the *Special* Theory of Relativity, are way beyond me, however, despite Isaacson's hard work in explaining these scientific ideas in layman's terms.

As I read the book, I wondered how Albert Einstein, the preeminent genius of the Twentieth Century, would have fared in our schools today. There has long been a myth, destroyed by Isaacson, that Einstein failed mathematics in public school. Einstein himself said, "I never failed in mathematics. Before I was fifteen I had mastered differential and integral calculus." Not bad, huh?

It's too bad the myth isn't true— it's been used by kids for years to explain their inability to do math and to argue that math would have no relevance for their futures.

The truth of the matter is that Einstein was a very good student. Isaacson said that "as a young man, he never did well with rote learning. And later, as a theorist, his success came not from the brute force of his mental processing power, but from his imagination and creativity... As Einstein once declared, 'Imagination is more important than knowledge.'"

Einstein did much of his thinking by creating mental picture images of the problems he was trying to solve. For example, he thought about space and the speed of light by imagining a boy riding alongside a beam of light in space. He thought about other issues by trying his best to imagine a real situation, like what it would be like to roll a bowling ball onto a trampoline and then add billiard balls. Isaacson says, "Now imagine this happening in the four-dimensional fabric of space and time. Okay, it's not easy, but that's why we're no Einstein and he was."

### Imagine Einstein in our schools today

Do our schools feed the kind of creativity that Einstein exemplifies? Do we take our children and help them use their intellect to solve problems that face them?

Over the last few weeks, I've had the opportunity to tour a number of schools through a program run by 2006-07 Teacher of the Year Christopher Poulos. Chris is going to a school in each of the DRGs and has invited legislators, education officials and some statewide association officials to come with him. We tour the school and then we hold a town meeting, discussing educational issues.

So far, we have toured some very fine schools... the type you can tell are high quality as soon as we walk through the classroom or laboratory doors.

One of the rooms we visited in the Middle School of Plainville was a Lego lab, where students were attempting to get their robotic Legos to perform certain actions. The students worked in groups or by themselves, trying to write software that would enable the Legos to carry out the instructions.

Einstein would have loved that class! It was just the right amount of math, technology and science to stimulate the students, who were really enjoying their "work".

This was a good school in a fine district. But, I have no doubt that many schools do not have the resources, or, perhaps, the vision, to provide such a stimulating course.

### Focus on More than Tests

My concern is that our ever-increasing focus on standardized tests will drive out the passion and creativity of our students. NCLB and other mandates that require more rote learning may help students who may not otherwise be able to learn on the levels that they will need to in order to become successful citizens. But, this must be balanced by the need to

stimulate passion for learning, curiosity and independent thinking.

On this last subject, Einstein himself complained about teachers because he always had to solve problems in his own way and not follow conventional wisdom.

The balance is just as important with our better students, since standardized tests may force our students to tamp down their creativity and solve those problems by rote. The need to do well on tests may be forcing us to find the lowest common denominator among our students and using this as the standard to which everything applies. We cannot afford to do this to our better students since we will need these students to be creative, innovative leaders in the years to come.

At the end of the book, Isaacson writes about how Einstein, while not a religious man, had a very deep and meaningful sense of wonder and awe about the reality around him. He spent decades working on a unified theory trying to explain that nature “is the

validation of the simplest conceivable mathematical ideas.” And while we may not understand the math involved, the awesome appreciation of what is around us and how the mind can produce such inspired thoughts is part of what our education system must nourish.

Of course, no one really knows how Einstein would do in today’s schools. I do think, however, that he would only thrive in a district that educated the whole child.

Wouldn’t it be great if all of our schools could provide education that would nurture geniuses like Einstein? Think of how every child could receive just the right balance of rote learning and firing of the imagination that would prepare the child for an exciting and productive future! And, how the student would have a curiosity and love of learning, not only now, but throughout his or her life!

No, not everyone is an Einstein. But, we must do all we can to nurture the abilities and potential of every one of our students.

Their future and ours depends on it.

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