

# Taking a Leap Forward

## STEM, Humanities Intersection Offers Opportunities



Keira Amstutz

In a key scene from the hit movie *Hidden Figures*, a mathematician saves the day. She does it not by discovering a computational error, but instead by reaching into history to use an ancient theory.

When Col. Eli Lilly founded his pharmaceutical company, he did it not simply because he was interested in new chemical compounds, but because he was troubled by the ethics and intentions of the people who sold the elixirs of the day.

And when Steve Jobs launched Apple, he built success not just on groundbreaking technology that left competitors in the dust, but also on design that reaches across cultures.

In these and countless other examples, major advances were made not by focusing exclusively on a particular discipline, but by putting an idea into a larger context. Or, to put it another way, these advances were made at the point where the “hard” sciences – what we know as STEM disciplines – intersected with the humanities.

Unfortunately, despite lessons like these, we find ourselves in an era and a nation where that intersection is increasingly devalued, often in the worthwhile pursuit of jobs and a stronger economy. Sadly, in many cases, STEM and the humanities are viewed not as potential partners but as opposing forces.

As troubling as this reality can be, it does offer opportunity: Those individuals, organizations, communities, states and nations willing to marry STEM and the humanities will, as history suggests, find themselves with a considerable advantage. Indiana is well-positioned to seize that advantage, but we must do so consciously and ambitiously. And that’s what Indiana Humanities is trying to encourage with our new statewide initiative, Quantum Leap.

### Setting the table

Before I go further, let’s define our terms. Most people are clear about what STEM is – science, technology, engineering and mathematics; on the humanities, however, people tend to be a little less certain.

Generally, I describe the humanities as those fields that examine the things humans make and the things that make us human. Specifically, that includes history, literature, poetry, philosophy and ethics, world languages and cultures, religious studies and archaeology, among others.

In past eras, STEM and the humanities have been seen as two sides of a common coin. In ancient Greece, what we now think of as science was very much intertwined with what we think of as the humanities and were collectively called the liberal arts – an education that combined literature and numbers. Today, people generally are OK with that relationship until such matters as funding, hiring and other resources are being considered. Then battle lines tend to be drawn.

As the ancient Greeks so wisely knew, there is no such thing as a one-sided coin, and neither STEM nor the humanities can exist in a vacuum.

### New questions

Today, this is perhaps most obvious with new technologies and discoveries. As former Notre Dame professor (and current Miami of Ohio president) Gregory Crawford pointed out, “The acceleration of discovery and invention in this century has reached a point where the question, ‘Can we do this?’ is almost always answered ‘Yes.’ Meanwhile, the question of ‘Should we do this?’ takes on new urgency.”

“Should we?” is a question the humanities can help us answer. They also allow us to ask, “How has this been handled in the past?” and, “What impact will this have on the people around me?” They help us to consider ethical dilemmas and matters of justice, compassion and wisdom. They guide us in processing truths and possibilities. They inspire, engage and enrich us.

As we look at such examples as the *Hidden Figures* character, Eli Lilly, Steve Jobs or countless others who have pushed the world beyond all boundaries, we see that we are at our best when we explore the spirit of possibility by combining the humanities with the sciences.

And that’s what we need today if we’re to prepare Indiana for its next 200 years. We must pursue both technical proficiency and critical thinking. We must master data and its implications. We must push forward by understanding the paths we’ve already walked. We must occupy this tiny space on a map while also considering its place in the greater world.

How do we do this? By being mindful that, as we push to increase our ability to compete in the STEM disciplines, we must also push to expand our horizons. By hiring innovators rather than simple executors. By valuing both technological expertise and nimble-mindedness. By investing in training that supports both technical skills and critical thinking. By thinking, reading and talking about the people and organizations that have succeeded by marrying STEM and the humanities.

Through Quantum Leap, Indiana Humanities will help tell those stories and support this effort with grants, programs, community conversations, “field trips” to places of Hoosier ingenuity and discovery, and more. We will facilitate collaborations and encourage examination. We will provide spaces to wrestle with change.

And we will call on leaders from all sectors of our communities to engage and participate, in order to ensure that Indiana seizes the opportunity not simply to expand our knowledge, but to expand our horizons. If you’re interested in participating in this conversation with us over the next few years, I encourage you to take the leap with us and reach out to me directly. I’d love to hear from you.



**AUTHOR:** Keira Amstutz is president and CEO of Indiana Humanities. This is the first of a series in BizVoice®. Future “Take the Leap” columns will focus on individual Hoosiers who are making a difference by merging STEM and the humanities. Learn more at [www.indianahumanities.org/QuantumLeap](http://www.indianahumanities.org/QuantumLeap)