



WEDNESDAY COMMUNIQUÉ

October 19, 2016

Mankind is not a circle with a single center but an ellipse with two focal points of which facts are one and ideas the other.

—Victor Hugo

Education for the 21st Century: What should a graduate of a 21st century university know? That is one of the key questions facing educators, students, parents, regents, companies, and elected officials. To quote the British scientist Stephen Wolfram, “Doctors, lawyers, teachers, farmers, whatever. The future of all these professions will be full of computational thinking. Whether it’s sensor-based medicine, computational contracts, education analytics or computational agriculture — success is going to rely on being able to do computational thinking well.” He goes on to remark: “I’ve noticed an interesting trend. Pick any field X, from archeology to zoology. There either is now a “computational X” or there soon will be. And it’s widely viewed as the future of the field.”

In 1959, the novelist C.P. Snow decried the increasing gulf between the sciences and the humanities in his [Rede lecture](#), subsequently published as “The Two Cultures and the Scientific Revolution.” In that lecture, he recounted a common and troubling experience:

“A good many times I have been present at gatherings of people who, by the standards of the traditional culture, are thought highly educated and who have with considerable gusto been expressing their incredulity at the illiteracy of scientists. Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking something which is the scientific equivalent of: Have you read a work of Shakespeare’s?”

The gulf has since widened even further and in recent years embedded itself into educational silos within the university. Despite increasing voices to the contrary from [industry leaders](#) and others, universities have continued to educate specialists in a single culture. I am convinced that universities must encourage writing in mathematics classes, since [writing is a fundamental mathematical skill](#), and must embed scientific and computational thinking across the curriculum. The fields of science and art, furthermore, and although they often proceed from different principles and according to different methods, share what Hannah Arendt termed “[creative sympathies](#).” Finally, and for good measure, I will note that Abraham Lincoln was [reported](#) to have practiced his oratory skills by reading Euclid until he was convinced that he understood the meaning of the word “demonstrate.”

One key tool, however, that scientific thinking can provide to all students and citizens is a “[Baloney Detection Kit](#).” Carl Sagan wrote in a 1996 chapter, titled “The Fine Art of Baloney Detection,” that “Science is far from a perfect instrument of knowledge. It’s just the best we have. In this respect, as in many others, it’s like democracy. Science by itself cannot advocate courses of human action, but it can certainly illuminate the possible consequences of alternative courses of action.” A baloney detection kit is something we could all use as we grapple with challenging societal and university problems. If you pick one up today, you could practice using it during tonight’s final presidential debate.

Data and Dashboards: Various teams have been hard at work to collect and present accurate data about our university. The official UNM data reported to the federal and State authorities resides with the [Office of Institutional Analytics](#). The site [dashboard.unm.edu](#) provides various dynamic dashboards about our students, faculty, and staff. This dashboard will be continually updated with financial and employment data.

International Education Week: UNM is celebrating [International Education Week](#) Nov.14-18, an opportunity to celebrate world cultures, people, and language. The success of International Education Week depends on the participation and support of the UNM campus community. Here is how to participate: identify a globally relevant

speaker, event or interactive activity that your unit can support during the week. Complete the [IEW participation form](#) so the IEW committee can help promote your event. Filling out the participation form will guarantee inclusion on the IEW calendar and in promotional materials. Please submit the form by October 28.

Chaouki Abdallah

Provost & Executive Vice President for Academic Affairs

A PDF version of this Communiqué is available on the [Academic Affairs website](#). Your feedback and input are welcome at provost@unm.edu. Please also see the [Provost's Blog](#).