

Universities Can No Longer Be Called Mere Ivory Towers

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BLACKSBURG A new report by the Pew Center on the States and the National Governors Association - "Investing in Innovation" -- confirms that a majority of states are investing resources to fund research and development (R&D) that solves pressing public problems like climate change and grows their local economies. One of the report's major findings is that universities must be key players in these efforts if they are to succeed. Are Virginia's universities up to the challenge?

The report, on which I served as a consultant, scanned the 50 states to catalog the range of activity in R&D taking place at the state level. It found that states are investing billions in areas as diverse as nanotechnology, advanced manufacturing, and alternative energy.

In some instances, states are filling a gap left by federal inaction -- such as the case with California's \$3-billion investment in stem cell research. In others, they are helping ailing industries, or funding the basic research that serves as the foundation for new medical and scientific breakthroughs.

The report concludes that successful states should follow some simple guidelines, all of which include a potential role for universities, such as:

- Embed investments in a 21st-century innovation strategy that moves beyond funding discrete programs to making a coordinated set of investments.
- Find your strengths -- and needs -- and fund R&D in those areas.
- Invest in collaboration. Encourage, or even mandate, that universities, industry, and government work together.
- Enlist experts. Seek advice from industry, people outside your state, and even from abroad.
- Be consistent, but not to a fault. Commit to a cycle of investment and assessment.
- Measure the results of funding, so you can be sure public dollars are well spent.

VIRGINIA HAS investments in R&D that show promise and match some of these guidelines, such as the Bioinformatics Institute at Virginia Tech or the small Commonwealth Research Technology Fund, but the focus of the report is largely on Arizona, California, and Ohio, and several neighbors to our north and south. Maryland's Industrial Partnership Program is cited as an example of a program that has catalyzed strong university-industry partnerships. Georgia's Research Alliance is noted for its efforts to attract top research scientists to Georgia universities; more than 50 have been recruited so far.

As the report catalogs, state R&D investments may be helping to drive university reform -- creating a renaissance in the number of productive university-community interactions, especially around economic development, and changing the perception of universities as ivory towers.

This would be a welcome return to the pre-World War II era, when universities -- especially land-grant ones -- were rigorously engaged in solving community problems from agriculture to engineering and beyond.

THERE ARE several trends within R&D overall that are fostering this transformation in the university role.

First, universities do not see each other as research rivals anymore. Increasingly, universities are networking with their peer institutions, and also collaborate across national and regional boundaries. Competition is too fierce and accelerated to work in silos anymore.

Second, university research has become more interdisciplinary. Biotechnology is just one example, where advances in the field demand that computer scientists work with biologists and chemists hand-in-hand. Nearly every new emerging field, such as nanotechnology, is defined by greater collaboration.

Finally, universities are recognizing that the community around them (schools, hospitals, community groups) is both a source of knowledge and an important consumer of new ideas. Even U.S. News and World Report has started to rank universities regarding their service learning and community engagement activities. Boise State University's College of Engineering, for example, climbed from 19th to 12th place on a list of best public engineering programs after expanding its community engagement efforts.

Universities will never be the nation's primary engines of economic growth -- and in fact, such a role would greatly overreach their mission to educate. But they are increasingly important support institutions, which not only perform valuable R&D, but attract smart students -- the essential capital for economic competitiveness.

States should do everything within their power to foster this transformation through their R&D investments -- and universities should take them up on their offer.

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