

Higher Education in Virginia and Virginia Tech's Role: Perspective of a New President

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Introduction

Thank you for the invitation to speak this afternoon. I think I can say on behalf of all my fellow-presidents that 2014 was an eventful year for higher education in the Commonwealth. It was certainly eventful for me as I became part of the Hokie Nation. I appreciate the support and encouragement I continue to receive from my colleagues and the Council.

I was pleased to see last week's announcement of a record number of undergraduate degree completions last year. It is evidence that thoughtful investment can produce tangible results.

2015 will likely be an eventful year as well, but I have confidence that Virginia's higher education leadership is prepared to meet our challenges and continue to expand our service to our students and the Commonwealth.

As we do so, it is important that we maintain focus on the full scope of the mission of higher education, and its potential to improve the lives of all Virginians.

This is our ultimate purpose – to impart knowledge, skills, perspective and resilience that will result in life-long success for our students and their families, and service to our communities and the Commonwealth.

My fellow presidents and I are pleased to endorse the Four Goals of the Council's strategic plan. We appreciate your leadership and your insight in identifying key areas that will support and accelerate our progress.

I have structured my remarks today around the four goals. I appreciate the opportunity to reflect on the importance of these goals to the Commonwealth, higher education, and Virginia Tech specifically.

The Four Goals

Affordability

We must assure that an education at Virginia Tech and other universities in the Commonwealth will be accessible to Virginia residents who are academically qualified and for whom our collective array of innovative programs are well-suited. While Virginia Tech admits 70% of those who apply and graduate 83% in six years - arguably the best combination of access and success, not just in the Commonwealth, but in the country - we still have a long way to go to ensure that a Virginia Tech education is affordable to those who are prepared to succeed at Virginia Tech.

In my view, the list price of an undergraduate education at Virginia Tech, about \$24K all in - tuition, fees, room, board, and incidental expenses - is a great deal compared to the \$50K+ price tags at private institutions of comparable quality

And when I say “comparable quality,” I’m not comparing apples and oranges. In one of the most comprehensive ratings of the undergraduate experience, Niche rates Virginia Tech as one of 82 “A+” institutions in the country, and 19 of those “A+” institutions are public, including three in Virginia.

That said, \$24K per year is too much for many families. For example, our net price for those with family incomes below \$30K is around \$11K. This is still too high. We need more focus on need-based financial support at the federal, state, and institutional level.

We cannot lose sight of the fact that a college or university education, especially for a first-generation student, can change the life of the student, the future of a family, and even the outlook of a community.

We fully support the important role of the state’s Community Colleges in easing the financial impact while providing a solid foundation for a four-year degree. A Community College within commuting distance of home can greatly reduce the cost to the student for the first two years. In our experience, students who transfer to Virginia Tech after two successful years are prepared to succeed at VT. Last year our seniors who transferred from VCCS schools had a mean GPA of 3.0, compared to about 3.1 for all students. The approximately 700 Community College students we receive each year make up about 70% of our transfer students, who have a 90% retention rate and an 83% five-year graduation rate, identical to the six-year rate for those who join us as freshmen.

In addition, our transfer students enhance the diversity of life experiences represented and engaged at Virginia Tech. Along with our General Admissions Agreement, Virginia Tech has established articulation agreements for our College of Engineering and College of Agriculture and Life Sciences. We also offer Lifeline Scholarships to VCCS graduates continuing their education at Virginia Tech to financially assist students making the transition from the two- to four-year college experience. We aim to do more.

Our responsibilities do not start with matriculation. We take seriously our role in creating pathways that reach back into the primary grades. Our K-12 STEM programs, our degree programs to prepare teachers and administrators, and our programs that help make college

normative for at-risk kids – such as College Mentors for Kids – are critical to the future of the Commonwealth and Virginia Tech.

Optimize success for work and life strategies

We can and should teach technical skills that match the needs of today's employers, but those needs will evolve over our students' lives. We must also teach them **how** to learn, and instill in them an intellectual excitement and curiosity that lasts a lifetime.

As an example, last month at Virginia Tech we were pleased to announce that one of our alumni recently made a very generous donation to establish a faculty chair in the College of Engineering. He is a graduate of our engineering school who went on to become the president of an international technology company. When asked **why** he wanted to financially support higher education, he said his university experience gave him **more** than technical knowledge. It provided him with critical thinking skills, perseverance, and a thirst for knowledge that stayed with him throughout his life.

We hear similar stories from scores of our alums. Our alums also tell us about the importance of internships and mentorships in preparing them to thrive in later life. We are engaged with Gallup to further establish the magnitude of these associations between experiences in College and well-being in the five dimensions of financial, physical, community, social and purpose. This approach goes well beyond the recent efforts to quantify financial return on investment for a college degree.

I will have more to report this summer on what we will have learned about the Virginia Tech experience. What we already know from the preliminary study of 30,000 college grads around the country (the Gallup-Purdue Index) is that guided experiential learning is the key, and should be an important part of every student's education.

- At Virginia Tech last year, almost 12,000 of our undergraduate students were enrolled in experiential and service learning classes.
- In a survey of our 2013 graduates, 50% reported participating in a paid internship, 25% had an unpaid internship. 43% engaged in volunteer work. Overall, 91% of the graduates who responded to the survey had one or more career-related experiences while a student.
- Research is another important aspect of experiential learning. Our data indicate 61% of our undergraduate students have substantive research experience. It is this experience that represents a special opportunity at a major research institution. We would like to move that number to 85%.

The impact of these experiences on student success cannot be overstated. They build confidence, open doors, and raise ceilings. It is our intent that every Virginia Tech undergraduate have the opportunity to participate in a relevant internship or meaningful research, or both.

Mentorship also matters, and we want every student to have access to a personal mentor. That mentor could be a member of the faculty or staff. It is also a tremendous opportunity to engage our students with talented alumni and our partners in business and industry.

Change and improvement through innovation and investment strategies.

We have an obligation to be good stewards of our resources, regardless of Virginia's financial situation. Innovative approaches can lead to cost savings, and more. Two recent examples in the southwest region include the Virginia Tech Carilion School of Medicine and Research Institute, and the future Virginia Intercollegiate Anatomy lab.

The VTC School of Medicine & Research Institute is an excellent example of an innovative investment strategy. Many of the resources required to create the school were already in existence – Virginia Tech had the science and research infrastructure, Carilion Clinic had physician faculty and clinical infrastructure. The collaboration resulted in an entity that graduates 40 research-oriented physicians each year and currently hosts 21 research teams. Co-locating a Virginia Tech research institute with a non-profit medical school created unique research opportunities for capable medical students. It also created 150 faculty and staff jobs and currently holds research grants valued at more than \$12 million per year. In addition, the project sparked a development boom in what was once an industrial brownfield. A privately funded, 150-million-dollar residential and commercial project is opening its first phase across the street from the medical and research campus. Such multi-sector partnerships – in this case, university, private sector, and regional and state government - are the future for higher education and for economic development in general.

The Virginia Intercollegiate Anatomy Lab is currently under construction in Roanoke. The VTC medical school, Jefferson College of Health Sciences, and Radford University's Doctor of Physical Therapy program all needed additional anatomy lab space to meet the needs of expanding programs. Each could have sought funding for separate, duplicative facilities. Instead they agreed on a plan for a single, joint facility to be developed on a vacant hospital floor. The new lab will not only meet the needs of all three institutions, it will facilitate inter-professional learning, providing opportunities for future doctors, nurses, and other medical professionals to learn to work together – something that can benefit all of us who might one day be their patients.

We must continue to seek out partnerships such as these that not only make fiscal sense, but create opportunities for enhanced learning.

Advance the economic and cultural prosperity of Commonwealth & its regions.

Each Virginia school and university is unique – and our diverse array of strengths, resources and opportunities are complementary. Working together enhances our ability to advance the cultural and economic vitality of the Commonwealth.

Virginia Tech's Role

Not long ago, Congress observed the 150th anniversary of the Morrill Act establishing the country's Land-Grant Universities. As a land-grant institution and a major research university, Virginia Tech is in a unique position to serve the Commonwealth.

We have a presence in every corner of the state, with graduate programs in Blacksburg, Roanoke, Northern Virginia, Richmond, Abingdon, and Hampton Roads, and extension offices in every

county. We are uniquely positioned to impact the entire Commonwealth through research, outreach, and collaboration.

The Virginia Tech Corporate Research Center, established with no state funding, currently has 31 completed buildings on 230 acres and is home to 160 companies with 2,700 employees.

Look at the challenges we face:

- feeding an expanding population,
- adapting to climate change (an important task in a state with multiple climate zones and a diverse agricultural industry),
- building resilient communities,
- protecting our natural resources,
- protecting the health and well-being of our aging populations,
- and managing global threats, such as the recent outbreak of Ebola.

As our land-grant mission has grown in parallel with our motto, *Ut Prosim*, the concept of service to humanity is in our DNA.

Virginia Tech is characterized by a 21st Century array of disciplines suited to the needs of today's world. We are a STEM-focused institution that integrates the arts, humanities, and social sciences with the STEM disciplines to open up new avenues for discovery and for education. The silo walls are coming down at Virginia Tech, and that distinguishes the institution from its peers.

The result is an integrated, holistic approach to both graduate and undergraduate education, providing relevant and forward-looking opportunities to students such as our newest PhD program in Translational Biology, Medicine, and Health.

Our interdisciplinary degree programs are attracting talented students from around the world because they provide both the depth of discipline and broad perspectives necessary for success in a rapidly changing environment. Programs recently approved by SCHEV include:

- Translational Biology, Medicine and Health
- Water: Resources, Policy and Management
- Nuclear Engineering – with a vision to create an interdisciplinary program of nuclear science and engineering spanning several Virginia Tech colleges and the VTC medical school.

Thank you for your support in bringing these exciting new programs to fruition. They are attracting new talent, and they are reenergizing our faculty and staff. They know that they are at the forefront of creating the disciplines of the next century, and our students, who have a greater stake in the future than any of us, know this intuitively.

Every program at Virginia Tech exists under our motto of service, *Ut Prosim*, “That I May Serve.” Our students and faculty uncover new knowledge with an eye toward how it can be utilized to help their fellow citizens.

Our goal is not merely to advance as a research university, but to become the premier “Service to Humanity Academy.”

Identifying the unique strengths of one university does not diminish the importance of other institutions of higher learning in the state. Rather, it is important that we recognize the unique strengths of each institution as opportunities for support and collaboration in the best interests of the Commonwealth.

These Four Goals can support the continuing development of our unique strengths and innovative solutions by providing an overall framework to align and coordinate our efforts.

Every college and university in the Commonwealth has a role to play in advancing the Goals. It is important to acknowledge and support our unique potential rather than adopting “one-size-fits-all” solutions.

We now have a large amount of information, including the recent JLARC report, that can be helpful in identifying opportunities for efficiency and collaboration that will serve the best interests of our students and the state.

One area of collaboration we strongly support is the continuing partnership with VEDP (Virginia Economic Development Partnership), CIT (Center for Innovative Technology), and SCHEV through our University-Based Economic Development Officers. I was pleased to have the opportunity to sign the new Higher Education and Economic Development Memorandum of Understanding at our November meeting and look forward to participating in these key strategies.

Perspective from “Outside”

I am often asked for my perspective on higher education issues in light of my recent experience with educational institutions outside Virginia. I can tell you that other universities in other states are having similar discussions about resources and opportunities.

They view Virginia high school students as a potential out-of-state resource, and we can expect them to try harder to recruit them and retain their own in-state students.

Some out-of-state universities are currently recruiting in Virginia, offering our students **better** financial packages than our in-state rates.

They are reaching out to industry partners looking for collaborative opportunities.

For example, the University of Maryland is applying to be part of the state’s Regional Institution Strategic Enterprise zone program, which would provide property and income tax credits to businesses that locate in areas surrounding the university and its research park. Their goal is to “transform the campus into a bastion of startup activity.”

They are seeking to establish innovative environments that will create and cultivate new economic development opportunities within their state borders.

Last month, a Baltimore startup company developing health care software announced it is moving to Austin, Texas, because they want to work with a top-tier research university that is building a new medical school. I could offer many other examples, some in Virginia.

That said, I believe many of the states and institutions that compete with us wish they had what we in Virginia have today:

- The reputation, strength and diversity of our higher education infrastructure, especially when it comes to the undergraduate experience.
- A system of higher education that is not “top-down,” but allows institutions the flexibility to pursue their unique mission’s opportunities.
- Our connections to corporations and industry from around the globe, such as the partnership between state institutions and Rolls Royce.
- Our diversity of environment and culture.

But we will not maintain these advantages without further action to support higher education.

Believe me, this competition is real, and other states are moving quickly. We must have the resources, the facilities, and the faculty to compete with other institutions at the highest level.

Last year, during Governor McAuliffe’s Roundtable on Advancing Commercialization of Bioscience Research in Virginia, we had the opportunity to discuss the link between a strong biotechnology economy and investment in research universities.

If you look at the top ten states in biotechnology employment, nine of them are ranked among the top half of states in per-student funding for public research universities.

Virginia, on the other hand, is ranked in the bottom ten for research university funding. Forty states invest more per student, including our neighbors in North Carolina with an investment per student more than triple that of Virginia. North Carolina is one of the top ten states in biotech employment.

In fact, according to the National Science Foundation, every state bordering Virginia is investing more per student at their research universities than we are.

If we are not providing students with the opportunities and atmosphere they seek, they will find it elsewhere. If Virginia students travel out of state, and students from other states and other countries choose to bypass our institutions and go elsewhere, we lose much more than revenue. All their potential for discovery, entrepreneurship, and economic development goes with them – and Virginia will find itself trying to convince them to come back to the Commonwealth with their inventions, companies, jobs, and investment capital.

If, on the other hand, we can keep our in-state students and continue to develop our ability to attract the best and brightest from around the globe, we can harness their potential right here. To that end, short-term state funding opportunities could be channeled toward financial aid to improve opportunities and incentives for in-state students to remain in Virginia.

The development of an innovation ecosystem supporting the stages of entrepreneurship from discovery all the way to maturity can drive economic growth that touches all regions of the commonwealth. Economic growth will in turn lead to additional funding opportunities for education, and the cycle continues.

We need a flexible approach that supports the potential and opportunities of each unique higher education institution in Virginia. We all have the same goal, but we do not play the same role. We need to support our best opportunities for economic enhancement and growth to their fullest extent.

We need to support and encourage collaborative opportunities between higher education institutions and private industry. We must embrace and manage conflict rather than avoiding them altogether. When those opportunities start as federal programs, we need to be at the table with cost-sharing contributions from the Commonwealth.

We also need to use our educational resources to create Virginia jobs through research and entrepreneurship.

Finally, we need to be competitive for faculty talent. We compete for faculty nationally and globally - rarely do we compete with other institutions in Virginia. We appreciate SCHEV's efforts to support competitive faculty salaries. They are not only critical for recruitment, they are even more important for retention. We have a long ways to go to catch up with peers, but we are committed as an institution to meet that challenge.

Conclusion

Thank you again for the opportunity to speak with you this afternoon, and for your thoughtful consideration of our needs and opportunities. It is not an overstatement to say that we are all charged with managing Virginia's most valuable resource: the knowledge and potentially world-changing innovation and ideas that are held within the minds of our citizens and students.