

CHAPTER 8:

Utah's Research University Tradition



The contributions of higher education have always been valued in Utah. Advanced learning was a key tenet of Utah's first immigrants. "We should be a people of profound learning," said Brigham Young, L.D.S. church president and first territorial governor.¹ Public education was as important to the settlers as tilling land, sowing crops, and building houses. During Utah's early years, the University of Utah and Utah State University had a large role in advancing the state's intellectual capital, industry, and development. Where, a century ago, the state's research universities were vital for their contributions in agriculture, mining, and military training, they are now a fundamental part of regional economic development.

The University of Deseret was established just two years after the pioneers' arrival in the Salt Lake Valley; it was, in fact, founded even before the state became a state! The first classes of the University were small, and funding was a continuing challenge for the frontier community, yet enthusiasm for the institution never diminished.² After many years of struggle and growth, the University of Deseret eventually became the University of Utah.

In 1886, the Agricultural College of Utah was established as the forerunner of Utah State University. Over time, the University of Utah and Utah State University have grown up with the state, providing both different and similar functions that have substantially enhanced the state's well-being.

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*—Brigham Young, first
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Establishment and Mission of Utah's Research Universities

The University of Utah

The first classes taught at University of Utah (then the University of Deseret) were held in private homes or wherever suitable space could be found. Funds to pay for teachers and

supplies came from private donations.³ The urge for an institution of higher learning in Utah was strong, but the economic foundation needed to be built. Classes were suspended after two years, until the state's investment in higher education began in earnest.

During the early years of the University, even under trying economic conditions and uncertainty about location, the University produced a number of benefits to the state, including graduates of note in many fields. These included Heber M. Wells, the first governor after Utah achieved statehood; Heber J. Grant, president of the L.D.S. church; Don Carlos Young, a famous architect; Richard W. Young, who would rise to the rank of General in the U.S. Army; B. H. Roberts, the famous historian; and Orson F. Whitney, a Mormon scholar and historian.⁴

In 1892, the University of Deseret became the University of Utah, and that decade the state legislature appropriated \$200,000 (nearly \$3 million in 2004 dollars) to create facilities for the new campus, to be located on the Salt Lake Valley's east bench. Over the next half century, the University focused on education—both for the development of teachers for Utah's public schools, and also for other knowledge and skills that would benefit its students. Although education was the primary initial role of the University of Utah, many other services were provided to the state, including the state's first library; training for the state's military during both World Wars; thousands of faculty, staff, support and construction jobs; and major development of the state's mining, business, and medical industries.⁵

Utah State University

Utah State University's beginnings can be traced to the mid-nineteenth century. President Abraham Lincoln signed the Morrill Act in 1862, which provided for a grant of land from the Federal government to the several states and territories. The subsequent sale of the land would provide an endowment to establish colleges that would, in the words of the act, support and maintain institutions:

...where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal education of the industrial classes in the several pursuits and professions of life.⁶

The Morrill Act was one of the first large-scale investments in intellectual capital because it was focused on developing an entire society of learned individuals. Utah State University was designed to be a school for all people, an institution intended to create a state of “citizen scholars” and a competent, well-educated workforce.

Though rightly centered on the home campus in Logan, the interests of Utah State University have historically stretched far beyond its institutional center. As part of the Land-Grant system—and as home to the Utah Agricultural Experiment Station—the University was founded with the idea that it would take its discoveries from the campus to the people.⁷

Though not explicitly stated in its mandate, Utah State University—originally called Utah State Agricultural College—required intensive research programs from its inception. Research took place primarily through the Agricultural Experiment Station, the most important component of the University at the time, that was established to deal with challenges associated with the most prominent industry in the state. Jeremiah W. Sanborn was recruited from the University of Missouri to head the Experiment Station, and he directed many research activities aimed at developing efficient agriculture methods that could be used to improve agricultural productivity.⁸

An especially important area of agricultural research was dry farming, which involves a specific set of techniques for raising crops in Utah’s semi-arid climate. John A. Widstoe and L. A. Merrill investigated dry farming practices in the state and developed the first systematic presentation of the principles in the nation. In 1903, the legislature appropriated \$12,500 for the establishment and maintenance of six experimental dry farms of 40 acres each in different parts of the state. These farms did much to stimulate the growth of dry farming, greatly influencing the agricultural industry of the state, which, at the height of the industry, accounted for as many as 30,000 farms. Today, nearly half of Utah’s 2 million acres of cultivated land still utilize the dry farming practices developed by Widstoe and Merrill.⁹

To further extend Utah State University research findings and benefits to the entire state, the Cooperative Extension program was created. The beginnings of the Extension Service came when the Experiment Station obtained money to hold a “Farmer’s Encampment” in each county in Utah—bringing the research work of the College to its rural constituency. In 1891, the Experiment Station expanded its role further by placing one of its employees, L.M. Winsor, in Vernal. Essentially the first county agent in the western United States, he was called to Washington to help launch a federally backed

county agent and extension program under the Smith-Lever Act. Utah State had placed county agents in all counties by 1922, and since then has expanded their roles to teaching in rural areas. These programs proved successful in providing needed benefits to the state.¹⁰

Due to commitments to the experiment station, extension division, and outreach programs, the college attracted thousands of students from rural Utah and surrounding states. The "AC," as it was labeled, literally fulfilled its mission by claiming "the state is our campus."¹¹

The Evolving Role of Utah's Research Universities

The University of Utah

By the mid-1900s, the University of Utah, recognizing that the future would be a high-tech one, had already taken steps to insure that it would be at the forefront of the rapidly expanding world of research and development of computers, medical devices, and other industries. These steps included the intertwined activities of increasing the University's research capacity, as well as creating an incubator and attractor of technology and business development.

The last half of the twentieth century brought great advances for the U. By 1970, the University's regular and auxiliary faculties were among the nation's most prolific researchers. The University had made research connections worldwide and ranked among the top 25 American colleges and universities in funded research. Some of the University of Utah's great research achievements included:

- Dr. Willem Kolff, the pioneer of artificial organs and limbs, made the University of Utah a household name when the artificial heart he developed was implanted in Dr. Barney Clark, a Seattle dentist.
- Evans and Sutherland, an early resident of Research Park, became the world leader in computer simulators for aerospace.
- The University of Utah Hospital became a world leader in treatment of burns and other trauma. The U of U Health Sciences Center also achieved prominence in cancer research through its Huntsman Cancer Institute.¹²

The University of Utah became one of the first in higher education to recognize that the profound results being created at the institution could be used to generate additional

practical and economic benefits for the state and beyond. In 1968, the University became just the sixth university in the United States to initiate a technology transfer program. And, in 1970 the University acquired land immediately adjacent to the campus and developed a research park to house high-tech companies, many of which grew out of faculty research. By 1980, income from patents and commercial licenses on inventions from the University's faculty had significantly increased.

To create the many benefits yielded by the state, the University of Utah required the support of the entire state.

A review of the past of the University of Utah reveals how the attainment of its present maturity and prestige was the result of the vision and foresight of [those] devoted to the principles and ideals of public higher education [and] who have met the various crises with the positive conviction that no outside contrary influence could be permitted to impede or divert the educational purposes for which the institution was founded and maintained, In those who have labored for it, the University of Utah has its richest heritage.¹³

Utah State University

According to one historian, "the change from College to University was a process—and the official name change was a mid-point in that process. From a primary emphasis on technically oriented undergraduate education in 1940, by 1965 Utah State's commitments to graduate education and research were major in virtually every academic area."¹⁴ At that time, Utah State University found it necessary to more fully engage in the research process because that was the drive of the faculty and the need of its students and the citizens of the state. In order for Utahns to compete in the global economy, Utah State recognized that technological and research skills were necessary components of a college education. This created significant expansion of the University research in the last half of the twentieth century, in both campus facilities and programs.

It is the phenomenal growth of the research programs that has both spurred new construction and altered complexity. In the ten years from 1968 to 1978, outside funding for University-conducted research rose from \$2.8 million to almost \$18 million. [From] 1978 to 1988 it more than tripled again. New programs have accelerated the trend.¹⁵

USU sponsored research awards have continued to grow dramatically, reaching \$162 million in 2003.

Although agriculture remained a mainstay of Utah State University research, other programs, necessitated by the needs of the state's students, grew as well. One of Utah State's traditional roles became training public education teachers for the state. Thousands of teachers have been taught and prepared at Utah State. The College of Engineering developed a major role in irrigation, civil, electrical and mechanical engineering, and also moved into the forefront of space research. Natural Resources became a strong focus at USU, focusing on the sustainability of Utah's precious land and water resources.

Like the University of Utah, Utah State has also focused on maximizing the benefits of its research. In 1986, Utah State established its research park. Now called Innovation Campus, the park has become an economic hub of northern Utah. According to one historian, Innovation Campus has brought the role of Utah State University full circle:

Where the first scientific experiments on the application of water to crops and vegetables were conducted by the Experiment Station at the turn of the century, the first buildings of the University's new Research Park are rising. In 1900 the contributions the College could make to a country where most people lived on farms or in small towns were contributions to agriculture. Today, while contributions to agriculture and agribusiness continue, the spin offs of other research are in the fields of high technology, and the acres that saw wooden sluices and measuring weirs now see Research Park businesses.¹⁶

Throughout their history, neither the University of Utah nor Utah State University have forgotten their mandates to serve Utah's students as well as its citizens. This charter has necessitated a variety of tactics: from housing the region's only public library, to imparting agricultural knowledge to the state's farmers. Today, these two major universities have evolved to best serve the needs of the state, by creating an innovative, collaborative atmosphere that satisfies the intellectual and economic appetites of Utah's citizens.