

By Thad Box

Education for Pioneers of the Future

ducation for the first colonists to become Americans did not exist in Europe. New skills had to be developed for living off the land—and sharing that land with, or taking it from, a people who occupied it. Survival was the prime objective. Just staying alive depended on understanding and adapting to a new environment.

Those who wrote our Constitution and installed our new Republic had few books and fewer rules. They read Greek, Roman, French, and English classics containing concepts and philosophy of democracy, freedom, and what it means to be human. Thomas Jefferson's personal library became our national Library of Congress.

Westward expansion in the United States began when the original states relinquished their claim to western lands. The adventurous poured over the mountains, forming new towns, counties, and churches. Survival skills were needed, but more complex social and political relationships called for different kinds of knowledge. Lawyers, doctors, and engineers came from "reading" with established professionals and obtaining a license, usually from a district court.

From the time the first Europeans landed until the Civil War, concepts and skills were primarily for survival in a new country. But more sophisticated education was needed for commerce and to sort out obligations between people, states, and other countries. In the Civil War, the country split. Families were divided. Following the war, economic depression occurred throughout the south. Cotton, the main cash crop, was not economical without slave labor. Former slaves and landholders struggled in a new social order. Families dispersed, seeking a new life in lands further west. Freed slaves started a migration to northern cities that lasted for decades.

The knowledge needed to heal and rebuild a wounded nation went far beyond survival skills. Educating the masses became a national issue. Congress passed the Land Grant College Act, making a university education available to working classes. Normal Colleges for training teachers to improve literacy sprang up like wildflowers.

World War I established our nation as a major world player. Following the war, unregulated greed spawned a robber-baron mentality that led to concentration of most of the country's wealth in the hands of a few. The collapse of the economy in the late 1920s led to the Great Depression, causing many people to move, looking for greener pastures. Government makework projects provided jobs for displaced farmers. Wage earnings, not crops, became the primary support for families.

World War II brought more dependence on wages. Families throughout America were looking less to the land and more to jobs. Labor shortages during the war turned women from housewives to factory workers. When the War ended, Americans found that the education that had served them well for 300 years was inadequate.

The GI Bill educated veterans beyond the high school level. The generation immediately following the Great War was the first in which a college education was within the reach of most Americans. Our veterans, the "Greatest Generation," turned the United States into the world's superpower.

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After WWII, populations grew. Energy became cheap and readily available. Technology advanced rapidly, providing tools for exploring ideas that the mind could imagine. The United States morphed from an isolated, self-sufficient nation into a member of the world community, where information is stored, retrieved, tested, and used at breakneck speeds.

No longer is education for the privileged, it is expected of everyone. People without strong, workable knowledge of systems, societies, and economies are destined to be the equivalent of share croppers. The powers driving America in the future will be those who develop ideas that fill needs of society.

The theme of this issue of *Rangelands* is education. Those who manage land do it in a much different social, cultural, political, and information climate than existed when the Society of Range Management was formed. In 1948 there were about 2.3 billion people worldwide. We recently passed the 7 billion mark. Our children will work in a world with 8 billion people connected by social media and innovations of the information age.

Recently I asked a number of successful land care professionals what education a rancher or a district ranger for the Forest Service will need in the future. There was considerable agreement about the technical education; it was not greatly different from what we have taught for decades. The manager must always be able to identify components in and understand of function of land systems—plants, animals, soil, water, etc. But the new land manager must be able to understand where the land fits into to the broader community governed by global, social, and economic systems.

This is not a new concept. Authors of the Land Grant College Act specifically mentioned teaching liberal arts to the agricultural and mechanical class. Our country was formed from men whose libraries consisted of classics. But as our country became more specialized, we substituted training in specific skills for education in principles of life, liberty, and the pursuit of happiness.

The work force changed. Only about 2% of Americans live on farms and ranches. There are more women in permanent jobs than men. Women outnumber men in university enrollment and college degrees awarded. More data about land and people are available than ever before—and there are more accurate tools for interpreting them.

Almost everything ever written is available with the click of a mouse. Machines translate material written in languages we cannot read. Everything is there—the good, the bad, and the outrageous. Education is learning to evaluate informa-

tion and separate the true from the false, the helpful from the destructive. The next step is to replace beliefs based on myth with facts based on science. We use education to apply knowledge to the land.

Evaluating information should be taught as general education. Ideally, high school graduates should be able to think critically, know the classical principles of liberty, be able to express themselves orally and in writing, understand the scientific method, and be able to evaluate the work of other writers and scientists. Unfortunately, most high school graduates cannot do that.

Universities often have to spend a third to half of a 4-year degree program in teaching general education. Professional schools, including those who teach range management, minimize general education in order to teach technical material they think necessary. The end product might be able to manage a piece of land, but lacks a firm grounding in understanding the larger system in which he/she works.

I think education for a land-use professional should be a 5-year program. The student should attend an integrated, co-ordinated program between a liberal arts college for 3 years and a natural resource college for 2 years. Students could be required to complete 3 summers of supervised employment during the program. At the end of 5 years, the student would receive a B.A. in liberal arts and a Master's of Natural Resources in some specialty field of natural resource management.

Such a program could be developed in a university setting where liberal arts and natural resource colleges exist, or between independent liberal arts colleges and natural resource colleges. The summer work program could be negotiated with land management agencies and/or private landowners.

We come from people who tamed the land and became its product. They moved across the continent, breaking new land and forming new cities and counties—and wasting forests, wildlife, and topsoil. Together they built our country through hard work, self reliance, and living with the consequences of one's action. The world is in rapid change. We are entering conditions as foreign to us as the shores of Virginia and North Carolina were to the first Europeans. We must understand the present and educate our children to manage change. They are the pioneers of the future.

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62 Rangelands