



# Reconceptualizing public engagement by land-grant university scientists

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Those in the Rose et al. (1) study share a common land-grant heritage and the charter and obligations it carries. As faculty members in tenure track, they also are incentivized by similar rewards and constraints. Accordingly, their perceptions can provide insight into ways that these institutions can better honor their ancestral missions while also enhancing community engagement by those with the skill, temperament, interest, and expert knowledge needed to make a contribution worthy of their effort.

## The Historically Circumscribed Terms of Engagement

Although land-grant institutions are “steeped in founding traditions of public service and impact” (1), commitment to these goals has waxed and waned. “In Wisconsin the university is as close to the intelligent farmer as his pig-pen or his tool-house,” noted Lincoln Steffans (2) in 1909. He added that, “to the worker, the university . . . is as much his as his union is his or his favorite saloon.” But, nine decades later, under the title *Returning to Our Roots*, a report of the Kellogg Commission on the Future of State and Land-Grant Universities would contend that “we have lost sight of our institutional mission to address the contemporary multidisciplinary problems of the real world” (3). The currency of that Commission’s 1999 call to make engagement “a central part of institutional mission” (3) should heighten concern about the findings that many land-grant faculty members who engage in public communication “feel unsupported” and relatively few see public engagement as important to their colleagues (1). If unaddressed, these perceptions may undercut initiatives such as the Public Impact Research one, of the Association of Public and Land-Grant Universities (APLU), designed to “build new knowledge and engage with stakeholders to identify and address societal issues” (4).

As the APLU effort rolls out, it might be useful to remind ourselves of the roots to which the Kellogg report refers, among them the collaborations that the 1914 Smith Lever Act’s cooperative agricultural

extension services formalized between farmers and university researchers. As a 1919 account by an extension agent reported, they involved “farmers and their wives” gathering with extension leaders to discuss “their problems,” community leaders determining their goals for the county, and a program being “brought to the agricultural college, the people’s college” where an expert gave it “the scientific point of view” and indicated how “the college of agriculture and the Department can contribute. . . .” (5). The result was extension work shaped by the “combination of common sense” of the people and “the trained scientific thought of the institutions” (5).

Ramp up the amount of interaction and that reprise comes close to satisfying the American Association for the Advancement of Sciences’ definition of public engagement with science as “intentional, meaningful interactions that provide opportunities for mutual learning between scientists and the public” (6).

By enhancing the communication skills of those in the community, the land-grant colleges and their extension services created a second legacy relevant to today’s needs. Tasked with instructing the offspring of the working class, these schools developed coursework in English composition and public speaking (7). In subsequent years, these efforts were complemented by extension-based 4-H opportunities for boys and, importantly, also girls to demonstrate their application of best practices in front of the local citizenry and, later, to make public presentations on issues of the day. I was a beneficiary. My first public speaking experiences occurred when, as an 11-year-old Minnesota 4-H-er, I outlined the steps required to stock a fallout shelter, first, to parents and peers in Carver County and, after input from that audience and the extension agent, at the Minnesota State Fair.

The land-grant universities’ commitment to empower and build communication capacity among those in rural communities foreshadows a role for scholars able to incorporate the insights of the science of science communication into public deliberations about science-relevant practices and policies. Fittingly, work led by

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Communications professor John Gastil at (land-grant) Pennsylvania State University has explored ways in which deliberation can “encourage participants to look beyond their biases to discover common ground” (8).

### Land-Grant Schools Have a Special Obligation to the Publics That Make and Made Them Possible

Public engagement by academic scientists presupposes a common understanding of the public. So too does the meaning attached to the Morrill Act of 1862’s donation of “Public Lands” that the states then sold to fund “land-grant” schools. Because these ill-gotten “public lands” were the birthright of indigenous people, these original stakeholders are a public with a special claim to engagement with and benefits from land-grant scientists and universities. Consistent with this goal, in Minnesota, an Extension project “engaged teens on the White Earth Indian Reservation to conduct golden-winged warbler habitat and nesting cover mapping at the Tamarac Refuge” (9). “Such experiences,” notes the United States Department of Agriculture website, “help youth develop science skills and learn skills necessary for future employment” (9). How often these goals are met is an important question.

Since another public to which the land-grant scientist in a public university is indebted is the taxpayer, it is apt that a 2017 editorial in *Nature* argued that scientists “ought to address the needs and employment prospects of taxpayers who have seen little benefit from scientific advances” (10). As admirable but atypical instances of tackling “research problems that affect their quality of life,” that piece cited activities at (land-grant) Michigan State University “monitoring soil and water quality . . . and addressing the challenges of regional demographics, such as the large numbers of elderly people who live alone in some regions and how to deliver health care to them.” Where, in 1919, extension focused on agriculture and home economics, in 2020, it applies “research-based knowledge” to subjects that include “food safety and quality, plight of young children, revitalizing rural America, sustainable agriculture, and waste management” (11).

These examples embody the spirit of the 1887 Hatch Act, which established agricultural experiment stations to enhance the “contribution by agriculture to the welfare of the consumer” (12). As a result, it would be useful to know the extent to which those in the communities served by land-grant institutions are aware of public engagement by scientists and whether the scientists accurately perceive the community’s appraisal of their efforts (1).

### Increasing Public Engagement Will Require More Flexible Expectations of Tenure-Track Faculty

Integrating public engagement into the portfolio of tenure-track faculty invites us to rethink who should perform this task and when they should do so. The contention that “land-grant universities should . . . encourage direct and meaningful engagement with their constituents and society” (1) presupposes time and talent. However, as “a shrinking pool of individuals holding tenure-track appointments” assumes “increasing . . . responsibility for . . . curriculum development, departmental and other forms of service, and conducting research” (13), adding expectations means something has to give.

New demands on faculty time invite universities to revisit the expectation that most in tenure track are bound by the same expectations of research, teaching, and service. Unsurprisingly, then, the University of Southern California’s 2015 Delphi poll identified support among deans (70%), provosts (67%), and, to a lesser extent, tenured or tenure-track faculty (50%) for “creating opportunities for highly customized and continuously changing faculty pathways through Creativity Contracts” (13).

### The land-grant universities’ commitment to empower and build communication capacity among those in rural communities foreshadows a role for scholars able to incorporate the insights of the science of science communication into public deliberations about science-relevant practices and policies.

This alternative might exempt some from public engagement while rewarding others for focusing on it. It might also open the option to engage at some points in one’s career but not at others.

If, as the Rose et al. (1) study’s scientists suppose, their universities and deans value public engagement more than do their colleagues, the availability of such pathways could incentivize engagement by those who value it while also honoring the preferences of those who, for example, would prefer spending more time in the classroom. If what education reformer Ernest Boyer termed the “scholarship of engagement” (14) is to become an integral part of land-grant institutions, the change will probably occur because expectations about it are harnessed to what Rose et al. see as “a burgeoning movement within public universities to recommit to service aspects of faculty expectations” (1) and because the younger scientists who place higher importance on public engagement activities (1) transform their universities’ culture.

The flexible contract addresses the third of the predictors of scientists’ willingness to engage—having the needed time. Anticipating that the experience will be enjoyable and will make a difference are the other two (15). Of note is that the science communicators in the land-grant sample find engagement activities beneficial, with 82% agreeing that they provide “food for thought” (1). Under a flexible pathway model, these individuals could opt in to more public outreach.

One value of customized career options is that they open time for engagement by those with the requisite temperament, talent, interest, and knowledge to communicate science well. The downside of incentivizing engagement is that those without these requisites may harden audience resistance (16), reinforce misinformation (17), inadvertently distort rather than convey science (18), or underscore the perception held by more than 4 in 10 surveyed Americans that research scientists feel superior to others (19). For these reasons, the authors’ caution that scientists embarking on engagement should use insights from the social sciences to inform their communication (1) is well placed.

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