

The Changing Role of Higher Education: Learning to Deal with Wicked Problems

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Abstract

The role of higher education is changing in today's world because the world itself is changing, and complex problems confront us daily. This essay will explore the role of an emerging group of individuals who can serve as a bridge between the academic community and the world at large. These administrators, faculty members, staff, students, and community members can help create new opportunities for different disciplines to work together and for all parts of a campus community and members of the broader society to form new working relationships to address the complex problems of today's world. What role will these boundary spanners play in building a culture of engagement? How will their work change our ideas about faculty work, staff work, and the role of students in achieving the goals of the institution and in responding to the changing world around us?

Introduction

The role of higher education is changing in today's world because the world itself is changing. All of our post-secondary institutions, regardless of their mission, are exploring how we can educate our students to become the kind of educated citizenry that we need in our nation today. We also are examining how our institutions can model informed and collaborative interactions with the broader society both locally and wherever our missions and interests take us. These goals have implications for the nature of our curricula and our conceptions of what it means to be well-educated. There also will be consequences for how we approach scholarship, teaching, and learning; how the careers of our faculty unfold; the roles and responsibilities of staff; the structure of our institutions; and how we support our mission. There also will be changes in our interactions with the communities that make up our world, both internally and externally. The future opening up to us is both challenging and exciting.

This essay will explore these elements and consider the role of individuals—administrators, faculty members, staff, students, and community members—who see the world in new ways, who can construct a deeper sense of today's realities from perspectives drawn from many disciplines, and who can draw others together

to design solutions to the problems we face as a society and as a global community. These people who can help create new opportunities for different disciplines to work together and for all parts of a campus community and members of the broader society to form new working relationships are boundary spanners. Others call them “transacademic interface managers” (*Brundiers, Wiek, & Kay, 2013*). They can come from within the academy or from the external community. Their roles are emerging, and they are seeking to find their way in a world that blends the traditions of an academic culture and the knowledge, experiences, and expectations of a broader community. In this essay, we will consider several questions. What role will these individuals play in building a culture of engagement? How will their work change our ideas about faculty work, staff work, and the role of students in achieving the goals of the institution and in responding to the changing world around us?

Higher Education in the 21st Century: Learning to Deal with Wicked Problems

Our nation’s colleges and universities have always sought to prepare their graduates for life and work in their own era. The pressures we face as educators and administrators in higher education today, both from outside the academy and from within our own community, are complex, interlocking, and hard to manage (*Ramaley, 2013*). These challenges require us to rethink what it means to be educated in today’s world and to explore ways to provide a coherent and meaningful educational experience in the face of the turbulence, uncertainty, and fragmentation that characterize much of higher education today. We have faced times like this before, and our imagination, creativity, and commitment to the common good have helped us through. As Rudolph (*1990*) explains it:

War, declining enrollments, the sudden instability of whole areas of knowledge. Dynamic social and economic changes—these and a multitude of other developments have often thrown the American college back upon itself and forced upon it a moment, perhaps even an era, of critical self-assessment and redefinition. (*p. 110*)

We are again in such a time, and we face a fresh set of “other developments” that now throw us not simply back upon ourselves but into the sometimes confusing and difficult territory of

campus/community collaboration and the effect of new forms of scholarship and practice. Open for fresh consideration are how we express our roles as scholars, teachers, and learners; the pathways we pursue in our careers; and the way that our work will be evaluated by peers, both within the academy and beyond. Collaboration with partners in the broader society will, I believe, offer a workable accommodation and response to the growing number of challenges that affect us as institutions and that we must address as we perform our responsibilities as intellectual and social resources for our society. These relationships, however, will require us to rethink the nature of the work we do and the impact of our contributions on how we generate knowledge, create an inspiring educational environment, and assist our students in acquiring the knowledge and skills they will need to work effectively with others to address complex problems. As we work to create greater institutional resiliency and adaptability in an uncertain world, we have a responsibility to learn both with and from others and to contribute to the efforts of other organizations and communities that are facing the same or similar challenges.

Workable responses and solutions to today's problems require new ways of learning, new ways of working together, and new definitions and measures of progress and success. I will make the case for the power of engagement as a way to approach our core functions of scholarship, teaching, and learning and as a strategy for linking scholarship and learning to the improvement of life in the community. Engagement can tap resources that would otherwise not be available to our institutions and our communities because they represent tacit knowledge and expertise accumulated by individuals or small groups of residents within the community. Engaged work draws upon many perspectives to frame questions, explore options, and develop and then apply solutions to challenges, both in the local community and beyond.

The formal definition of engagement developed by the Carnegie Foundation for the Advancement of Teaching (2013) is built upon the Boyer (1990) model of scholarship in which discovery, interpretation, and application of knowledge become a shared commitment and an endeavor that brings together scholars from across the disciplines and members of the external community who bring different perspectives and experiences to work on problems of common interest.

Community engagement describes collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial

exchange of knowledge and resources in a context of partnership and reciprocity.

The purpose of community engagement is the partnership of college and university knowledge and resources with those of the public and private sectors to enrich scholarship, research, and creative activity; enhance curriculum, teaching and learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good. (*Carnegie, 2013, para. 4*)

Unlike the culture of traditional scholarship, which is assessed by academic peers (*Glassick, Huber, & Maeroff, 1997*), engaged scholarship and engaged learning must meet both the standards of the academy and the expectations of community partners and representatives.

At its core, engagement follows the same decision-making and solution-finding path that should be familiar to all of us who came of age in the traditional academy. The roles and responsibilities of the participants are clear. What differs is who plays those roles and how different participants interact with each other to advance the agenda (adapted from *Mathews, 2006*). In engaged scholarship, members of the academy and community partners share responsibilities for each of these tasks.

- Who names the problems and asks questions?
- Who identifies and evaluates the options?
- Who shares resources to advance the agenda?
- Who cares about what choices are made?
- Who bears the risks and who enjoys the potential benefits?
- Who interprets the results and defines success?

Education in Today's World: Engaged Learning

One of the best descriptions of what it means to be educated was produced early in our current era by William Cronon (*1998*). An educated person can be described as fully by how they interact with other people as by what they know (*Ramaley, 2005*). In Cronon's list of traits, a clear portrait emerges of educated people who (1) listen and pay attention to the ideas of others; (2) read and understand; (3) can talk with anyone; (4) can write clearly, persuasively, and movingly; (5) can look at something complicated, figure out how it works and how to respond to complex and changing problems; (7)

focus on other people's ideas, dreams, and even nightmares, not just their own mental landscape, and practice humility, understanding, and self-criticism; (8) know how to get things done in the world and leave the world a better place; (9) enjoy nurturing and encouraging other people and appreciate the value of being a member of a community; and (10) above all, follow E. M. Forster's injunction from *Howards End*—"Only connect"—by which Cronon means the ability to see the connections that allow us to make sense of the world and to act within it in creative and responsible ways.

Kim Stafford (2003), in his reflections on the writer's craft, summed up these ideas in his own way. He wrote, "A new connection among a constellation of dispersed facts is always original. There lies the pleasure of discovery and creation" (p. 61). Reading the world in this way, according to Stafford, "honors an old paradox about reading, for the verb 'to read' originally meant both to decipher a text and to explain a mystery" (p. 77). Engaged learning and scholarship open up new ways of seeing, new approaches to sense-making, and new opportunities to work together to apply what we learn by "reading" our environment. These ways draw upon the mental models, values, and language of different disciplines and different ways of understanding the world.

Dealing with Wicked Problems

Kim Stafford's (2003) reflections on "reading" the environment offer a way to address wicked problems, the kind that permeate our lives today both in our own communities and across the globe. These are the kind of problems that we must address through the public problem-solving that takes place in a healthy democracy (*Oh & Rich, 1996*) and that we must learn to model in our campus communities as well.

The concept of a wicked problem was developed by Rittel and Webber (1973), who argued that

the professional's job was once seen as solving an assortment of problems that appeared to be definable, understandable and consensual . . . but now that these relatively easy problems have been dealt with, we have been turning our attention to others that are much more stubborn. (p. 156)

According to Rittel and Webber (1973), these kinds of wicked problems cannot be definitively defined; they continue to change as we study them; the choice of an appropriate response or solution is

never clear-cut; there is little if any room for trial and error; every problem is essentially unique; every problem is tangled up with other issues and may be a symptom of a larger, more complex challenge; and there isn't much margin for error in understanding the issues and in choosing strategies for handling the problem because every choice creates new problems of its own.

The management of this kind of problem requires collaboration, a sharing of exposure to risk and an opportunity for benefit, and a willingness to learn as the problem changes. It is this sort of challenge, defined as contested questions coupled with unclear and often disputed solutions, that lends itself to engaged strategies of scholarship, teaching, and learning. The prevalence of this kind of problem also is reshaping our approach to professional education and our collaborations with professionals in our communities as we seek to prepare people who have not only content knowledge but also the ability to use that knowledge wisely while continuing to learn, who can read the environment of practice, and who can work with others to address the needs of the people and organizations they serve (*Palmer, 2007*). Professionals who possess these skills are also reflective practitioners, individuals who live in Donald Schoen's "swampy lowlands" and navigate through often murky and uneven terrain (*Schoen, 1987, p. 37*). Experience with the integration of research, education, and application or professional practice can prepare a student to take on the role of an integrator and boundary spanner.

According to Camillus (*2008*), a wicked problem can be identified by studying its characteristics. These problems happen in the "swampy lowland" of daily life (*Schoen 1987, p. 37*).

Wicked problems often crop up when organizations (or communities) have to face constant change or unprecedented challenges. They occur in a social context; the greater the disagreement among stakeholders, the more wicked the problem. In fact, it's the social complexity of wicked problems as much as their technical difficulties that make them tough to manage. Not all problems are wicked; [however] confusion, discord and lack of progress are telltale signs that an issue might be wicked. (*Camillus, 2008, p. 100*)

Building the Capacity to Manage Wicked Problems

The features of a wicked problem sound very much like those workings of democracy in our nation today that arouse our concern. To quote Camillus (2008) again, any wicked problem “involves many stakeholders with different values and priorities” (p. 100). The problem itself is a tangled knot, like an impacted wisdom tooth with multiple roots. These problems are “difficult to come to grips with” while they “change with every attempt to address them” (p. 99). As if that were not enough, these challenges have no obvious precedent, and there is no well-practiced or simple way to solve them. Life in a community, on campus or off campus, often follows this kind of pattern.

Wicked problems often create nested or tangled elements that are difficult to unravel. The description of a wicked problem that Camillus (2008) offers also sounds very much like the pressures we all are facing as we seek to steer our colleges and universities through a turbulent and increasingly uncertain environment. Our roles and purposes are increasingly questioned; our sources of support, both financial and social, continue to dwindle; and our efforts are criticized in ways that cause us to wonder whether the public purposes for which our institutions were founded are fading away (Humphreys, 2012).

The elements from which we build an institution are also changing. The educational environment is no longer fully within our control. The world itself is both a classroom and a laboratory, and all of us can learn at any time, in any setting, and for a multiplicity of reasons. For a number of years now, patterns of participation in higher education have been shifting to complex models of intermittent enrollment, transitions from one institution to another, and co-enrollments of various kinds (Adelman, 1999). Similarly, the composition of the professoriate and the career paths open to academics are changing (Austin, 2003). Concerns about success in these complex environments have led to criticism from external stakeholders about the cost of an education, the economic value of a college degree, low graduation rates, and different success rates across social and economic groups (Humphreys, 2012). These demographic and cultural shifts are further complicated by technology that is changing how we communicate with one another, how we learn, where we learn, what we want to know, and how we will use the knowledge we have acquired (Shirky, 2008).

Today's global challenges (*The Millennium Project, 2013*) are especially difficult wicked problems, ranging from democratization to sustainable development and climate change, clean water, health issues, energy sources, and peace and conflict. To prepare ourselves and our students to deal with problems like these, whether they are playing out in our own communities or across the globe, we must learn to engage our students, faculty, staff, and community partners in the task of working on a problem that changes as we study it, defies easy solutions, and requires us to work with people we have never met before who may or may not share similar values and who most certainly bring with them very different perspectives and expertise.

In a recent report from the Academy of Arts and Sciences, the Commission on the Humanities and Social Sciences (2013) asked, "Who will lead America into a bright future?" (p. 17) The report answered the question succinctly and issued a challenge to all of us who both seek to educate our students and live responsible, creative, and productive lives ourselves.

Citizens who are educated in the broadest possible sense, so that they can participate in their own governance and engage with the world. An adaptable and creative workforce. Experts in national security, equipped with the cultural understanding, knowledge of social dynamics and language proficiency to lead our foreign service and military through complex global conflicts. Elected officials and a broader public who exercise civil political discourse, founded on an appreciation of the ways our differences and commonalities have shaped our rich history. We must prepare the next generation to be these future leaders. (*Academy, 2013, p. 17*)

The leaders of today's world must have experience with questions like these and some opportunity to come up with workable ways to manage them in a collaborative, open, and respectful way as a part of their education, at home or abroad or both. To provide appropriate exposure to various aspects of wicked problems and to foster the knowledge, intellectual skills, and social and civic responsibility that can inform and shape how we react to problems of this kind, universities must learn how to work in a solution-finding mode as well.

The task of organizing our intellectual assets in ways that contribute to in-depth exploration and broad integration across fields

and perspectives offers its own kind of wicked problem. Academic institutions have grown accustomed to organizing intellectual capital in discrete domains that we call departments and disciplines. Although most of us have various forms of integrative mechanisms and support structures for collaboration and cross-disciplinary scholarship, it is rare for these efforts to shape our curriculum and our expectations of our graduates. The *Degree Qualifications Profile* (Lumina Foundation, 2011) offers one attempt to define a model of coherence, integration, and progression over time, held together by reflective learning and practice shaped by attention to real-world problems. As more institutions experiment with approaches to designing an education that meets the demands of a new era, they will develop new ways to model, foster, and assess the knowledge, skills, and inclinations that will be needed by productive, creative, and responsible people in today's world.

In the 20th century, universities were recognized for their comprehensive array of disciplines, the research funding they obtained from a small set of federal agencies and the publications that arose from that sponsored work, their focus on technology transfer and outreach supported by a dedicated infrastructure managed by professional staff and extension agents, and a highly selected and well-prepared student body. The excellence of the institution was, in sum, the aggregate of the individual scholarly efforts of faculty, interpreted and applied primarily by outreach professionals (Holland, 2012).

Although this model of institutional achievement will surely continue to be part of our academic culture, the overall reputation and impact of a university will increasingly shift to a new pattern of achievement based on a different approach to the production and use of knowledge that is collaborative, open, and global in character (*International Business Machines Corporation, 2006*). In the 21st century, universities will focus on a number of signature themes that reflect both their academic interests and the characteristics of the communities and regions that they serve. Institutions will build extensive collaborative partnerships with other universities, sectors of society, local communities, and even nations to generate knowledge, address societal challenges, and create learning environments in which to educate their students. Universities will work together to address the needs of a much more diverse student population and to enhance the overall level of persistence and success in the educational environments created both by individual institutions and by networks of cooperating institutions. Innovative technology-based and experiential teaching methods (*Kuh, 2008*)

will be developed and utilized to support student learning and success and to engage students in collaborations that address wicked local and global problems. In this model of engaged scholarship and learning, excellence will acquire new dimensions. The reputation and impact of a university will be created through measurable effects on the quality of local and global life, culture, health, economic stability, and environment (*Holland, 2012*).

The Role of Boundary Spanners

As in all organizations, the collective behavior that constitutes institutional mission, culture, and capacity depends upon the work of each member of the campus community. Boyer (*1990*) published a landmark text that addressed the implications of the ways that the work of the academy, exemplified most significantly at that time by the scholarship of individual faculty members, was adapting to “shifting priorities both within the academy and beyond” (*p. xi*). Boyer’s observation that the faculty reward system was narrowing “at the very time that the mission of American higher education was expanding” set the stage for his argument that “[at] no time in our history has the need been greater for connecting the work of the academy to the social and environmental challenges beyond the campus” (*p. xii*). He set out to define in more comprehensive terms what it means to be a scholar and how teaching and research represent aspects of the same complex process of making sense of the world.

Over 20 years later, the same issues are still with us, but the larger worldview that is informing our changing sense of mission and purpose now includes the work of students, professional staff, and members of the broader community as well. As Boyer (*1990*) foreshadows in his aptly titled chapter “The Faculty: A Mosaic of Talent,” our entire campuses are now a mosaic in which each piece matters, but the value of each contribution takes on a greater meaning when seen in the broader context of the responsible use of the knowledge that is generated both within the academic enterprise and in society at large. Leading a university is now rather like conducting a large orchestra made up of individually talented musicians who are still learning how to play together. Some are experienced and wise and willing to help their younger colleagues along, some are full of energy and enthusiasm but lacking in confidence or ability to listen well to others, and some are annoyed at the choice of the composition to be played and prefer to play a solo piece.

The people who are growing into the role of boundary spanner must ask themselves several defining questions as they develop a distinctive identity and purpose within the academy and seek to advance the practice of engaged scholarship, learning, and teaching in cooperation with members of the community both on campus and beyond.

1. How do you see yourself as a scholar?
2. How do you describe your work to others?
3. What do faculty and students and members of the broader community want to learn, how do they want to learn, and what do they want to do with the knowledge they gain?
4. What adaptations is your institution making to the changing nature of the production and use of knowledge and what we now expect from college graduates in today's environment?
5. What is your own role in this changing environment, and how can you best contribute to the development of a culture of engagement? How can you use your own expertise and connections to inform and support adaptations of the academy to the realities of life today?

Although these questions are not comprehensive, they do offer a start in exploring roles and responsibilities and patterns of influence in the changing academic world and how best to link the world of the academy to the experiences and knowledge of the broader community to create a working environment that supports engaged forms of scholarship, teaching, and learning. At its heart, the question is about how best to manage from the middle of an organization (*Bolman & Gallos, 2011*). People in the middle of a complex organization must learn ways to work in an environment in which they often have scarce resources, a crowded schedule, limited authority, and several layers separating them from the senior leadership of the college or university in which they are playing boundary-spanning roles.

Boomgaarden (2008) offered some sage advice for people in this position. He cautioned boundary spanners and middle managers to stay alert to system dynamics and adjust to them by wisely using their influence and power to enlist and coach others, act as

facilitators of new patterns of interaction, and find support and solace in the company of others who share their goals.

Creating a Culture of Engagement in the Academy

Engaged scholarship and teaching and learning draw upon a distributed base of information and knowledge (*Gibbons et al., 1994*). The nature of wicked problems requires an approach built upon many disciplinary perspectives and experiences, leading to greater collaboration across fields and to the involvement of new participants who bring fresh knowledge and perspectives from their own professional experiences and cultural knowledge. The university must create new forms of infrastructure to support and sustain these new working relationships while encouraging faculty and students to seek out integrative and collaborative opportunities that address today's complex problems. These new hubs of activity and sources of technical support are being staffed by a new class of professionals who consider themselves scholar-practitioners and boundary spanners. The people they support and bring together are also boundary spanners. These individuals have experience both in the academic world and in the community but often are more familiar with and more at home in one of those environments. Their responsibility is to help universities develop new partnerships, new ways of learning together, and new expectations that add up to work that is mutual and reciprocal across fields and between the university and broader society, collaborative in nature, focused on learning with and from partners, and supported by a sense of shared purpose.

In today's university setting, engagement is often found in pockets—individual courses that include an experiential component, individual faculty scholarly work that derives its inspiration and questions from some aspect of community experience or concern, curricular designs in a few professional fields that have revisited how they prepare their students for professional practice and moved beyond standard clinical experiences to educating reflective practitioners (*Schoen, 1987*) through some form of problem-based work (e.g., *Bridges, 1992*).

As Schoen (1988) says in his prefatory remarks:

In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application of research-based

theory and technique. In the swampy lowland, messy, confusing problems defy technical solutions . . . in the swamp lie the problems of greatest human concern. (p. 37)

In the 1980s there may have been a number of these high promontories where well-researched answers could be applied to crisply defined questions. In today's world, those vantage points are few and far between, and the capacity to address today's messy and confusing problems will need to be infused across our entire institutions and through our collaborations with our communities as well. To learn new ways of working together, new ways to learn, and new ways to measure our progress, we must attend to all aspects of campus life and structure. A fully realized culture of engagement will provide:

- access to innovative and relevant educational programs and to research and information resources;
- partnerships that address social, economic, and environmental issues;
- scholarship that arises from and informs efforts to promote human well-being in a healthy environment;
- integrated efforts across the entire university in ways that draw upon the distinctive perspectives and expertise of all fields;
- a culture that recognizes and supports engaged scholarship, learning, and teaching; and
- resources to invest in collaboration.

These components of an engaged culture will be shaped by: (a) how a university approaches its educational mission and the design, delivery, and expectations contained in that curriculum; (b) the scholarly agenda developed by individual faculty and the integrating themes that bring different disciplinary perspectives together to address large questions; (c) the nature and purposes of collaborations and other interactions between campus and community; and (d) the infrastructure that holds these integrative models together both internally and externally and the development of a group of people—the boundary spanners on staff and on the faculty—who develop and maintain a culture of meaningful engagement.

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