Chapter 3
Community Engagement Scholarship, Research Universities, and the Scholarship of Integration

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The definition of community engagement scholarship spans the range of research, teaching, and public service and is expressed across the spectrum of disciplines comprising the modern research university. Much of the literature on community-university engagement focuses on benefits that accrue to the community (Fitzgerald et al. 2010). In fact, engagement scholarship generates enormous benefits for higher education as well. In this chapter, we focus on engagement research and teaching and document how each exemplifies the university's mission, while simultaneously enhancing opportunities for faculty, staff, and students to embrace the scholarship of integration. Specifically, we document how community-based research and teaching are grounded in engagement scholarship, enrich students' educational experience, deepen the authenticity of faculty research, create sustainable research opportunities through partnerships, fuel innovations in trans-disciplinary research, and strengthen institutional stewardship. We provide examples of each of these benefits drawing on our experiences at a major public research university.

Professional and Community Engagement (PACE), as defined by Macquarie University, is a familiar concept to land-grant public colleges and universities in the United States. PACE's emphasis on the student experience and practice-based learning brings to mind much of the literature on service learning and civic engagement. The 3 Ps (people, planet, and participation) resonate with efforts in the United

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States to adapt research and teaching to develop "T-shaped" students/professionals to meet the needs of twenty-first century knowledge economies with both depth of knowledge and breadth of collaborative skills (Guest 1991). Efforts to advance engagement teaching, research, and service missions by definition require concerted efforts to build an infrastructure that aligns the institution with principles of community engagement scholarship (Beere et al. 2011; Fitzgerald et al. 2012; Furco 2010; Hodges and Dubb 2012), including building strong partnerships with extraordinarily diverse communities locally, nationally, and globally (Fitzgerald and Simon 2012; Simon 2009).

Historical Context for Community Engagement in the Twenty-First Century

Michigan State University (MSU) was founded as state land-grant agricultural college in 1855 (see Table 3.1) and became part of the United States' system of land-grant public colleges in 1863 within the context of the Morrill Act of 1862. The Morrill Act challenged land-grant institutions to address the needs of society, with particular emphasis on agricultural production and the mechanical arts (engineering) (Bonnen 1998). Land-grant colleges were founded explicitly to educate and serve the general public in order to create the workforce necessary to fuel an industrial society and feed a growing population. Although not explicitly noted in the Morrill Act, a bidirectional flow of knowledge and problem solving efforts between land-grant colleges and the publics they were charged to serve was implicit. Increasing agricultural production and educating the workforce required a steady interplay between university faculty, farmers, manufacturers, and business leaders to discover best practices that would result in higher agricultural yield and greater industrial production.

In 1887 the Hatch Act augmented the research aspects of public land-grant colleges by establishing agricultural research stations, and in 1914 the Smith-Lever

Table 3.1 Brief history of Michigan State University: transformational events leading to university status

1855	Founded as the Agricultural College of the State of Michigan via a State Land-Grant
1861	Renamed: State Agricultural College
1863	Became part of the national land-grant system under the Federal Morrill Act of 1962
1887	Federal Hatch Act: Established Agricultural Experiment Stations for Land-Grant institutions
1909	Renamed: Michigan Agricultural College
1914	Federal Smith-Lever Act: Established Cooperative Extension Service for Land-Grant Institutions
1925	Renamed: Michigan State College of Agriculture and Applied Science
1955	Renamed: Michigan State University of Agriculture and Applied Science
1964	Renamed: Michigan State University

Act established a formal dissemination system through the Cooperative Extension Service. Although the interplay between community and land-grant institutions has continued to the present, transformational changes in American higher education through the twentieth century gradually shifted land-grant colleges, focused on undergraduate learning, toward becoming land-grant universities that address both undergraduate and graduate education. As a result of this shift, the predominant teaching mission of land-grant colleges was gradually replaced by the influence of the Humboldtian university (Albritton 2009; Anderson 2006), with its emphasis on the integration of teaching and research, supported by organizational structures that focused on advancing disciplinary knowledge and assuring academic freedom, faculty independence, and decentralized oversight of performance.

In the immediate aftermath of the Second World War, the United States directed considerable attention to its need for a strong research and development infrastructure, especially in the areas of science, technology, education, health care, urban planning, transportation, energy, and agricultural production. The growing interconnectedness among federal funding agencies, industry, and higher education increasingly drove research universities deeper into the Humboldtian research model and fueled tremendous growth in graduate education, changes that have been described metaphorically as the Triple Helix (Etzkowitz 2008; Dzisah and Etzkowitz 2012). Undergraduate enrollments in American higher education grew dramatically each decade, with increases of 49 % in the 1950s, 120 % in the 1960s, and 45 % in the 1970s (Snyder 1993). For example, between 1950 and 1970, Michigan State University enrollment grew from 19,546 students to 40,511 students (MSU Office of the Registrar). An equally accelerated growth in faculty size occurred to align research with federal priorities and meet the needs of burgeoning student population.

In addition to the numerical growth in students, faculties, and facilities, societal issues exerted pressure on higher education to transform from the practices developed during the nineteenth and twentieth centuries, to philosophical approaches more closely aligned with the emerging challenges of the twenty-first century. The most influential of these involved the combination of the civil rights movement and the Vietnam War, which challenged the social and moral fabric of society, and the Soviet Union's launching of Sputnik, which stimulated the science community.

The confluence of the civil rights movement and the Vietnam War sparked great civil unrest, but simultaneously sowed the seeds for the development of the civic engagement movement, which in higher education ultimately lead to institutionalization of service-learning. The actions of Michigan State University (MSU) students, faculty and community members related to racial inequities had a direct effect on the 1967 establishment of the university's center for volunteer programs (see Table 3.2). Although solidardad (solidarity) or "social learning" was firmly established in places like Mexico and many countries in South America (Tapia 2013; Tapia and Mallea 2003), it was not a formal part of the higher education culture in the United States. In 1965, an MSU faculty member in the College of Education, Robert Green, and a local Presbyterian minister, John Duley, accompanied a group of students to Rusk College in Canton, Mississippi to help with voter registration. Unknowingly, they laid the foundation for the establishment

Table 3.2 Michigan State University: transformational events in the development of outreach and engagement as an integral aspect of institutional mission

1968	Established the center for voluntary services
1979	Renamed: center for voluntary services to service-learning center
1989	Established the office of Vice Provost for University Outreach
1993	Defined outreach: A form of scholarship that cuts across the teaching, research, and service missions of the university
1996	Developed points of distinction: guidelines for planning and evaluating outreach. Provided both quantitative and qualitative indicators of quality outreach in four categories: significance, context, scholarship, impact
2002	Renamed: Vice Provost for University Outreach to Assistant Provost for University Outreach
	Renamed: Service-Learning Center to Center for Service-Learning and Civic Engagement, with joint reporting to the Vice President for Student Affairs and the Assistant Provost for University Outreach
2003	Renamed: Office of University Outreach to Office of University Outreach and Engagement
2004	Developed the Outreach and Engagement Measurement Instrument to establish a campus-wide data base on faculty and academic staff outreach and engagement scholarship activities
2005	President Lou Anna K Simon re-conceptualizes land-grant as world-grant with five Boldness by Design strategic imperatives to stimulate institutional change: Enhance the Student Experience; Enrich Community, Economic and Family Life; Expand International Reach; Increase Research Opportunities; Strengthen Stewardship
2006	Renamed: Assistant Provost to Associate Provost for University Outreach and Engagement
2009	President Simon identifies inclusiveness, quality, and connectivity as core values for a land-grant/world-grant university. Defines connectivity as "forward-looking, anticipating tomorrow's issues while addressing the issues of today. It means a willingness to take responsibility for our role in our community, to work hard and to fulfill our commitment" – See more at: http://president.msu.edu/statements/core-values/#sthash.I8dewkt9.dpuf
2012	Boldness by Design renamed as Bolder by Design and President Simon adds sixth strategic imperative: Advance our Culture of High Performance

of the Center for Voluntary Programs (Table 3.1), which evolved into the MSU Center for Service-Learning and Civic Engagement (Duley and Springer 2013) which today places over 21,000 students annually in voluntary or academic service-learning/civic engagement experiences.

The other event that catalyzed transformation in higher education was the launch of Sputnik. Challenged by the Soviet Union, institutions focused attention on the need for a new type of work force, one well-prepared in mathematics and committed to developing the innovative technologies and sciences needed to enhance the United States' competitiveness for the newly emerging space age. These societal events occurred at the same time that innovations in physics, the biological sciences, engineering, computer science, mathematics, economics, epidemiology, and industrial and human factors dynamics (Ashby 1961; Feigenbaum

1980; Forrester 1961; von Bertalanffy 1968; von Neumann 1923, von Neumann and Morgenstern 1944; Wiener 1948) converged to create a rich interdisciplinary systemic science, emphasizing non-linear, open, dynamical complexity of problems to predict change (Levine and Fitzgerald 1992; Kottter 2012). These cross-cutting advances in science challenged the authenticity of twentieth century empiricist-positivist and reductionist philosophies of science for understanding systems of complex problems, characterized as messes (Alpaslan and Mitroff 2011), wicked problems (Brown et al. 2010), and antifragility (Taleb 2012). In retrospect, it should not be surprising that the information technology sector was the first to recognize that cross-discipline synergies of change required different educational models to prepare the workforce required for 21st economies (Guest 1991): that is, capable of dealing with existing or "tame" problems, while simultaneously having the ability to work with transdisciplinary teams to tackle wicked problems (Paynter 2014). In short, the twenty-first century requires a workforce that has what Lawrence (2010) describes as "imaginative transdisciplinarity", in order to attack complex problems, recognize local contexts and uncertainty, engage in intercommunicative action, continuous collaboration, and commitment to both knowledge application and knowledge discovery.

The collective impact of these fundamental changes in the social, behaviorial, and life sciences and technology disciplines forged over the past 70 years or more, was a return to the core principles of the land-grant university, which Simon (2009) described as inclusiveness, connectivity, and quality. For faculty to reach imaginative transdisciplinarity, they need to be re-connected with communities so that research is anchored in "a context-specific negotiation of knowledge" (Lawrence 2010, p. 17). Students need opportunities for active learning in community contexts, not only to gain a deeper understanding of complexity, but also to grasp and embrace a profound sense of civic purpose. They need to be T-shaped students to meet the demand for T-shaped professionals (Leonard-Barton 1995) (Fig. 3.1).

Service-Learning and Civic Engagement

Service-learning, as a movement and a practice in the U.S., established roots in the late 1960s. In its earliest stages, it was considered a form of student volunteerism. Educators who were early adopters of service-learning believed they were connecting students to community-based learning opportunities for the student's growth (Southern Regional Education Board 1969). The concern was to have experiences for students that fostered community service and development, as well as stimulating social change (Stanton et al. 1999). The practice of service-learning in higher education has evolved and today is considered a form of community engaged scholarship (Fitzgerald and Zeintek 2015).

The MSU Center for Voluntary Services and the movement developed out of the social justice interests of faculty and students. Over time, MSU has purposefully developed the practice of service-learning to benefit the university
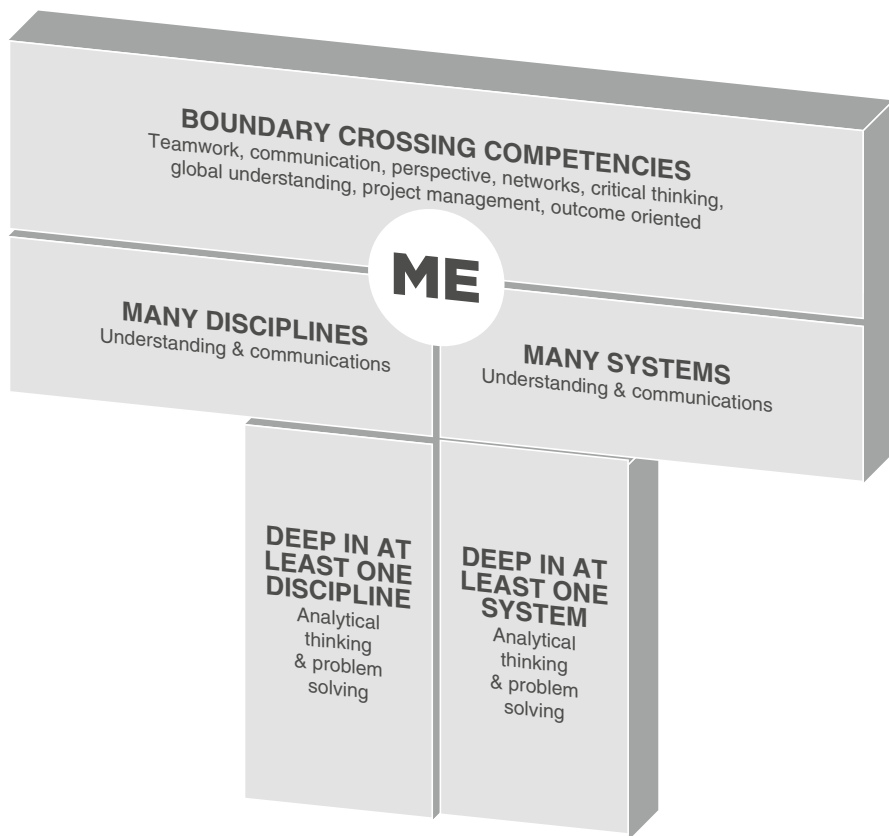
Fig. 3.1 Model depicting the desired characteristics of the T-shaped student/professional at Michigan State University (Courtesy of Michigan State University and IMB)

and the community mutually, and in doing so, has re-conceptualized it as a form of community-engaged scholarship. Beginning in the 1970s, Mary Edens, one of the Center's directors for decades, spoke about the evolution of the Center and the practice in this way. She initially thought that the university should make volunteer service a part of a student's major. She described the early model as one with three specific phases: students researching volunteer opportunities, community partners providing orientations for the students, and students deciding on service placements based on what they hoped to learn and what assets they believed they could contribute (Stanton et al. 1999). In short, Edens was laying the groundwork for the concept of integrated scholarship, where faculty, students, and community partners truly realize the potential of Boyer's (1996) scholarship of integration (see Fig. 3.2).

By the late 1990s connections between service-learning and civic engagement were beginning to appear in the field. Erhlich (2000) described civic engagement

SCHOLARSHIP OF INTEGRATION
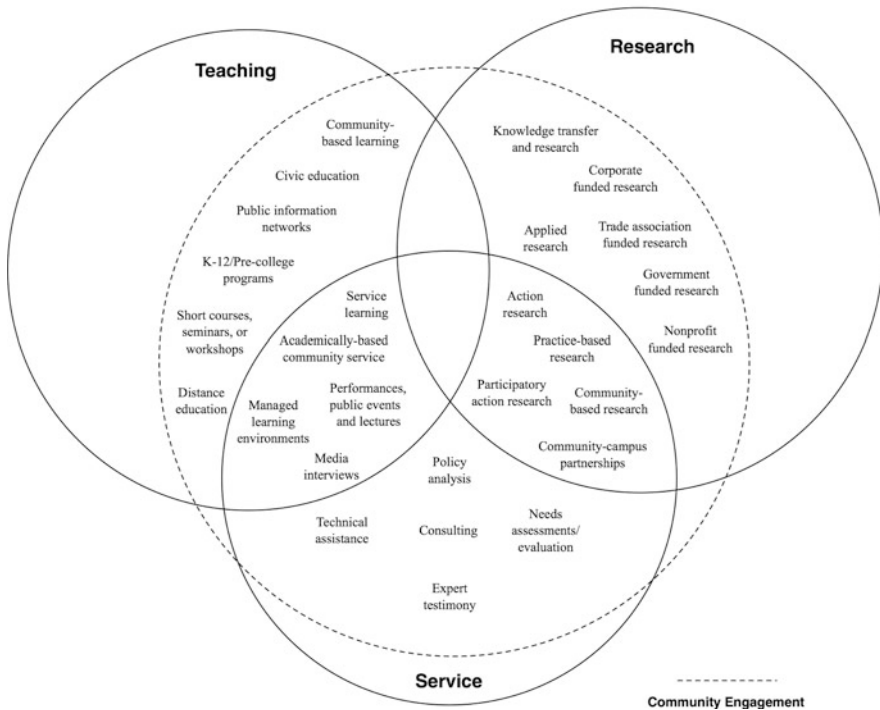
Fig. 3.2 Examples of a continuum of engaged scholarship across teaching, research, and service. From, Glass and Fitzgerald (2010) © Michigan State University (Reprinted by permission of the publisher)

as working to make a difference in the civic life of communities and developing the combination of knowledge, skills, values, and motivation to make a difference. Boyte (2004) stressed the importance of service-learning for teaching democratic values and instilling a sense of civic responsibility and purpose. In 2003, MSU adjusted the organizational structure of the Center for Service-Learning so that the volunteer dimensions continued to report to the Vice President of Student Affairs, and the civic engagement and academic service-learning would report to the Assistant Provost of Outreach and Engagement, renaming CSL as the Center for Service-Learning and Civic Engagement (see Table 3.2).

Today, as institutions of higher education consider the benefits of becoming an engaged campus, one that is committed to community engaged scholarship, they focus on the benefits to both the community and to the institution. With service-learning and civic engagement the benefit to the institution, in large part, comes through the effective education and development of students. However, students cannot gain benefits from service-learning without the explicit input from the community partners who provide access to businesses, schools, health care centers,

Table 3.3 Minnesota State University Moorhead indicators of student benefits from community engagement in service learning

Increase your understanding of the class topic
Gain hands-on experience (possibly leading to an internship or job later)
Explore or cement your values and beliefs
Have opportunities to act on your values and beliefs
Develop critical thinking and problem-solving skills
Grow your understanding of diverse cultures and communities
Learn more about social issues and their root causes
Improve your ability to handle ambiguity and be open to change; become more flexible
Develop or enhance your skills, especially in the areas of communication, collaboration, and leadership
Test out your skills, interests, and values in a potential career path, or learn more about a field that interests you
Connect with professionals and community members who you will learn from
Grow a professional network of people you might connect with again later for jobs or internships
Satisfy your urge toward public service or civic participation

Source: Benefits of Service-Learning. (n.d.). Retrieved November 1, 2014, from http://www.mnstate.edu/asl/benefits.aspx and reprinted by permission of the publisher

community neighborhood centers, and other for-profit and non-profit organizations. Table 3.3 illustrates one university's summary of the value added to the student's learning experience.

At the Minnesota State University Moorhead, the benefits of service-learning are recognized for students and faculty as well as for community partners. It is recognized that in the practice of service-learning, community partners gain access to disciplinary expertise, additional resources to address organizational issues, and external enthusiasm and support for their missions. The list of benefits for students is equally valued. Students involved in service-learning gain better disciplinary understandings, are able to put theory into practice, and cement their own personal values and beliefs. Faculty are able to employ interactive teaching and reciprocal learning and explore new avenues for community engaged research and publications.

The institutional benefits for engaging in service-learning are vast. Student engagement has been reported to improve persistence in college, develop leadership skills, broaden societal understanding, improve academic performance, and better disciplinary knowledge. Institutions of higher education are able to meet their goals and address the public purpose of higher education through service-learning. Experts in the field make the connection that critical thinking skills, civic responsibility, and involvement in political engagement are all increased and improved through service-learning (Beere et al. 2011).

Case Example 1: Project 60/50

As colleges and universities continue to make connections and provide opportunities for students to develop their civic skills and connect to lifelong community engagement, the struggle to be relevant to students and community partners is ongoing. Although it is recognized that the millennial generation has not experienced the days of segregated schools and public facilities, they are still impacted by past racial and social injustices caused by segregation. Unequal access to quality public education, disability discrimination, LGBTQ rights, the racial and gender wage gap, immigrants' rights, and women's rights remain struggles in today's society.

While most American college students associate celebrations commemorating the Martin Luther King, Jr. holiday (MLK Day) and days of service that they may have experienced in their school days with the civil rights movement, they may not understand that two watershed events in twentieth century American History continue to have significant impact on American citizens of all races, genders, and cultures today. The year 2014 marked the 60th anniversary of the U.S. Supreme Court decision in Brown vs. Topeka Board of Education and the 50th anniversary of the passage and signing the Civil Rights Act into law. The 1954 Brown decision was the beginning of the end of racial segregation in America's public schools. The Civil Rights Act of 1964 made unlawful major forms of discrimination, including unequal application of voter registration requirements and racial segregation in schools, at the workplace, and by facilities that served the general public.

Michigan State University launched Project 60/50 in January 2014 during the campuses traditional MLK Day Celebration. Through a series of year-long conversations, MSU and community partners worked to build community by:

- Commemorating these anniversaries across the campus of Michigan State University and extending its mission into the community through a series of innovative, interactive, events, programs, and educational opportunities.
- Engaging in conversations on these historical events, as well as generating new conversations on contemporary issues related to inclusion and diversity.
- Educating one another on the personal, domestic, and global impact of these issues.

The intent of the year-long initiative was to link academic and community exploration and study, public commemoration and remembrance, and cultural expression – including service and engagement. Campus and community partners strove to foster a new sense of community and commitment to one another through a shared understanding of civil rights and the need for renewed collective impact.

Michigan State University's Office of Inclusion and Intercultural Initiatives provided the overall coordination of Project 60/50. The goals of the project were to educate and engage the campus and community about civil and human rights yesterday, today and tomorrow. This was accomplished through a year-long "conversation" that took the shape of book readings, guest speakers, film showings, exhibits, guest speakers, and service and community engaged learning.

In an effort to bring service and engagement to Project 60/50, the MSU Center for Service-Learning and Civic Engagement and its community partners launched *What's Your 110? A Yearlong Spartan Service Challenge* on January 20, 2014. All MSU students and employees were encouraged to honor each anniversary year of Project 60/50 with 1 h of personal service/engagement, by meeting the challenge of personally serving 110 h over the course of the next year. Students and faculty and community partners responded strongly with 46 community engaged learning courses, 141,015 h served, and an estimated $3,120,661 in volunteer time contributed to communities in Michigan and around the world. This yearlong service challenge demonstrated the MSU community commitment, but more strongly, it provided evidence of the extent to which community partnerships benefit university efforts to provide service and civic engagement experiences within and outside of the curriculum.

T-Shaped Students to T-Shaped Professionals

As noted above, solving global problems that transcend disciplinary parameters and with entrepreneurial and innovative solutions, requires a new type of student who ultimately becomes a T-Shaped graduate, community member, and professional. T-Shaped professionals are characterized as collaborative, creative, innovative, and able to engage with diverse communities. Further, T-Shaped professionals acknowledge their specific expertise and competently share it with non-experts to solve complex problems. Involving students in community experiences facilitates development of both critical components of the T-shaped professional: The "I," representing deep knowledge within a discipline, facilitates solving tame problems, while the "T," adaptive cross-disciplinary skills combined with knowledge gained via context-specific community experience facilitates team or transdisciplinary efforts to solve complex or wicked problems.

As colleges and universities address the need to develop T-Shaped graduates, multiple practices are converging. Developing students' civic skills and competencies is an essential aspect of service-learning and civic engagement. By definition, this means that not only faculty members, but community members need to be involved in determining what those competencies should be. With both community and faculty-defined competencies in mind, students can experience firsthand, what Heraclites referred to as the "unity of opposites." Although Heraclites' assertion that "one cannot step into the same river twice" is a well-known metaphor for the dynamics of change, the unity of opposites is a metaphor for many instances of change, where one must consider the possibility that each decision about an object or situation has two possible outcomes, depending on the context. For example, for every positive corporate decision there must be a contrasting negative decision in order to define the positive (opposite) as positive, or vice versa. Similarly, community voices may often contrast with academic voices, but one cannot have meaning without the other. After all, "If knowledge depends on contexts like

professional research communities . . . it is relative to those communities and *therefore* not truth at all" (Newfield 2008, p. 259). Guided by the knowledge and opportunities within communities, service-learning prepares the student to develop the adaptive and transdisciplinary skills of the T-Shaped professional.

Although the concept of T-Shaped originated in the information technology sector, it is not just the information technology and business worlds that can provide students with service-learning, internship or externship opportunities to experience application of academic knowledge with the tacit knowledge of community. The private, nonprofit and public sectors have also realized the benefits of developing future professionals through community engaged scholarship and have been doing so for over 30 years. Employers from across the economy have begun seeking graduates with boundary-spanning competencies. If in fact an institution is evaluated by the quality of its graduates, it will greatly benefit from its development of T-Shaped students. MSU, with its historic footing in service-learning, benefits greatly from the alignment of civic skills and boundary-spanning competencies with the student's overall learning experience. Such experiences in community provide assurance to current and future students that their integrated university experiences will provide them with the adaptive skills required to prepare them to work in the twenty-first century knowledge economy.

Fueling Innovations in Transdisciplinary Research

Human societies are increasingly confronted by complex or wicked problems stemming from such factors as population growth, movement to urban regions, excessive use of carbon based energy, and decaying infrastructure. The complexity of these problems eludes simple solutions, in part, because any effort to fix one component of a complex problem simply gets lost within the inherent dynamics generated by the emergent properties of the system within which components are embedded (McNall et al. 2015). This is vexing from the perspective of individuals dealing with complexity, but it also poses intriguing challenges for researchers. Armed with increasingly sophisticated quantitative techniques for modeling complexity, university researchers are now tackling issues related to environmental toxicology, preservation of fresh water, food production and distribution systems, green technologies for mobility, etiology of physical and mental diseases, wealth distribution, lifelong education and regional economic and community development. Every complex issue is an issue involving community, and without working intimately with community partners to find solutions, it is unlikely that university researchers will succeed in their efforts to understand and affect complex problems. Since humans produce most of the problems on the planet, they need to be part of the solutions!

The emergent twenty-first century effort to tackle complex problems clearly needs the end product represented by T-shaped student, but it also needs T-shaped professionals across the spectra of the Triple Helixes (Etzkowitz 2008) who can

integrate tacit, indigenous, and explicit knowledges (Russell 2010) in efforts to co-create sustainable solutions. In the university context, these approaches are increasing labeled community engagement scholarship (Fitzgerald and Simon 2012) or more broadly, trans-disciplinary research (Brown 2010).

Case Example 2: Fresh Water

North America's five Great Lakes contain 20 % of the world's fresh water. Combined they represent the largest freshwater system in the world. Geographically situated in the midst of the Great Lakes, MSU has invested in two major multi-disciplinary research units to address issues related to the preservation of fresh water quality. The Center for Advancing Microbial Risk Assessment/Center for Water Sciences bring together engineering, chemistry, microbiology, fisheries, crop and soil science, molecular genetics, geology, medicine, zoology and sociology to address the complex issues related to the health of this complex water resource. The Institute of Water Research (IRW) coordinates research and educational initiatives related to ground water quality from multidisciplinary perspectives. A web-based map system enables community members to input information about rain gardens and barrels, porous pavement, and other environmental practices designed to enhance the efficiently and green use of fresh water. A High Impact Targeting interactive system allows farmers and conservationists to view geographic information system (GIS) data related to erosion and to use that information to guide practices to reduce erosion, enhance water quality, and protect habitats. In the words of its director, John Batholic, utilizing twenty-first century technology, the IWR has delivered on its "commitment to effective networking with the MSU academic units and outside local, state, and federal agencies and organizations [to develop] a wide range of cooperative efforts and partnerships."

Case Example 3: Food Production and Distribution

In the U.S., Michigan's agricultural diversity is second only to that of California, and MSU has strong partnerships with farmers, cooperatives, commodity groups, distributors, and retail enterprises around food production and distribution. Today, many of these partnerships focus on transporting food from rural farms to urban markets, including local farmers' markets, restaurants, and grocery stores as well as markets outside of Michigan's borders. The Center for Regional Food Systems provides a hub for transdisciplinary research and for the development of communities of practice related to regional food systems through applied research, education, and outreach. For example, Center staff have not only organized operational teams that include farmers and public health officials, but have also focused on engaging youth (urban and rural) in communities of practice that develop strong

community involvement. One example of community involvement is illustrated by neighborhood/community associations constructing hoop houses in urban areas to enhance local access to food and to generate new urban businesses related to organic farming, including neighborhood farmer's markets. Another example is the development of youth leadership programs focused on urban youth to orient them toward urban agriculture from assisting with current production to enhancing career development across the diverse aspects of food production and distribution. A final example is provided by university development of community kitchens, where individuals can bring specialty products and produce them at a scale necessary to support a small business enterprise, without having to personally invest in the equipment needed for large scale production. Successful product development then provides new opportunities for partnerships with university researchers to address issues related to food distribution to Michigan's close geographic neighbor, Ontario, Canada.

Deepening the Authenticity of Faculty Research: Community Engagement Scholarship

Most discussions about authenticity in community engagement scholarship focus on issues related to cultural competence, where cultural competence serves as a euphemism for racial-ethnic sensitivity. Authenticity with respect to CES clearly includes issues related to racial and ethnic sensitivity, but it encompasses a much larger sphere of diversity that includes social-economic class, historical trauma effects on indigenous populations, language variations, educational level differences, sources of knowledge that affect epistemological variation in response to the question of what constitutes knowledge, and differences in resources between community and university. In an effort to provide examples of authentic community engagement scholarship, MSU established an award for CES that is presented annually at a symposium during which the MSU President addresses the state of the university and awards faculty, student, extension, and, now, engagement scholarship partnerships. Table 3.4 provides a thumbnail sketch of community-university partnerships that have led to sustainable community change (see Table 3.4).

Creating Sustainable Research Opportunities Through Partnerships

Thus far we have drawn attention to the critical role that university-community partnerships play in developing efforts to build systemic models to assess or forecast changes empowered by research, especially through use of quantitative modeling and simulations. But university-community partnerships do not exist a priori, they

Table 3.4 MSU University engagement scholarship annual awardees

Year	University	Community	Partnership description
2006	Cris M. Sullivan, Department of Psychology	Turning Point, Inc.	A scholar collaborated with a community agency to assess the quality of interventions designed to assist victims of domestic violence and sexual assault, and co-authored a training manual on outcome evaluation strategies for sexual assault service programs with the agency's executive director
2007	Randi Nevins Staulis, Department of Teacher Education	Lansing School District	An urban school district and MSU faculty work to develop programs that enhance retention of new teachers in urban school districts through professional development
2008	Pamela Whitten, Department of Telecommunication, Information Studies, and Media	Marquette General Health System	Using distance technologies, health care providers can assess the patient's appearance and responses to help evaluate symptoms and explore treatment options, or monitor their conditions using medical peripheral devices to listen to cardiac activity or examine ears and throats
2009	Janet Swenson, Department of Writing, Rhetoric and American Cultures	Red Cedar Writing Project Team, East Lansing	Swenson's enthusiasm has resulted in the development of a wide array of RCWP auxiliary projects, facilitating many unique programs for teachers, students, and community members annually throughout Michigan
2010	Rachel Fisher, Department of Pediatrics and Human Development	The Dream-M Project: Deafness Research and Education across Mid-Michigan	For over a decade, the partnership worked with deaf and hard-of-hearing individuals, their families and other community members to identify a genetic basis for high levels of hearing loss and to strive for remediation
2011	Gretchen L. Birbeck, Department of Neurology and Ophthalmology & Department of Epidemiology	Chieftainess Mwenda, Basanje Royal Establishment in Mazabuka, Zambia	For more than 15 years, these two partners have worked to improve the lives of people with epilepsy in rural Zambia using community-based epilepsy care and working in partnership with the Zambian Minister of Health
2012	Angela Calabrese Barton, Department of Teacher Education	Boys and Girls Club, Lansing	The partnership engages at-risk-youth in science, technology, engineering, and match and encourages them to become community science experts in the broad areas of green technology and environmental health

Table 3.4 (continued)

Year	University	Community	Partnership description
2013	Daniel R. Gould, Institute for the Study of Youth Sports, Department of Kinesiology	Think Detroit Police Athletic League	This 7 year MSU-community partnership has provided training for over 5000 Detroit coaches and managers involved with the 11,000 youth involved with sports teams annually throughout Detroit
2014	Dorinda Carter Andrews, Department of Teacher Education	East Lansing Public Schools	Partnership with a public school district designed to identify factors that contribute to African American student underperformance and implement culturally relevant and responsive interventions for improving student achievement

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must be constructed and the building of sustainable partnership often requires enormous investment in human and social capital to build the level of trust-in-relationships sufficient to enable the co-creation of possible solutions. This requires a level of honesty, openness, self-reflection, equity, and culture sharing that takes time and persistence. Universities that invest in developing and maintaining such partnerships provide an avenue for accessibility that can dramatically shorten entry for new faculty and new community partners. An example of the development of such partnerships at MSU include the efforts in Flint, Michigan undertaken by Robert Brown (brownr23@msu.edu), an academic specialist associated with MSU's Center for Community and Economic Development, and, in addition, a resident of that city.

Case Example 4: Neighborhoods Without Borders

During the past 5 years, Brown has been working to build a community initiative in Flint in an effort to facilitate a grass roots effort to promote change. Flint has experienced a half century of economic decline due to changes in the automobile and its supportive industries. The level of poverty in Flint is among the highest in Michigan, high school graduation rates have declined precipitously, and rates of aggravated assault and violence are among the highest in the United States. The population decline has been dramatic.

By the late 2000s the residents of Flint organized into a variety of networks in their efforts to restore their community. These include: the Community Action network of parents whose children had been murdered; Flint Neighborhoods United, a coalition of neighborhood leaders; Building Neighborhood Capacity, a resident-driven attempt to build capacity in two low-income neighborhoods; Flint Lifeline,

an effort to build partnerships among law enforcement, social service provides and members; and Neighborhoods Without Borders, a network that Brown drew together and which coalesced around ten indicators of healthy neighborhoods. Brown then drew together residents and stakeholders from the community coalitions to develop a collective effort to transform Flint. At the same time, he was building a coalition of faculty and staff who already were working in Flint, albeit independently, to develop the same on-campus coalition of researchers. The final stages of this long-term effort involved bringing faculty and community residents and stakeholders together to discuss common interests, the starting point for forming university-community partnerships. This brief sketch of a multi-year process does no justice to the persistence and trust building necessary to build partnerships within a community and then transforming them into university-community partnerships. In addition, Brown brought Flint place-based higher education institutions into the collaborative process in an effort to build sustainability into a now multi-university, multi-community collaboration focused on helping Flint create a new future.
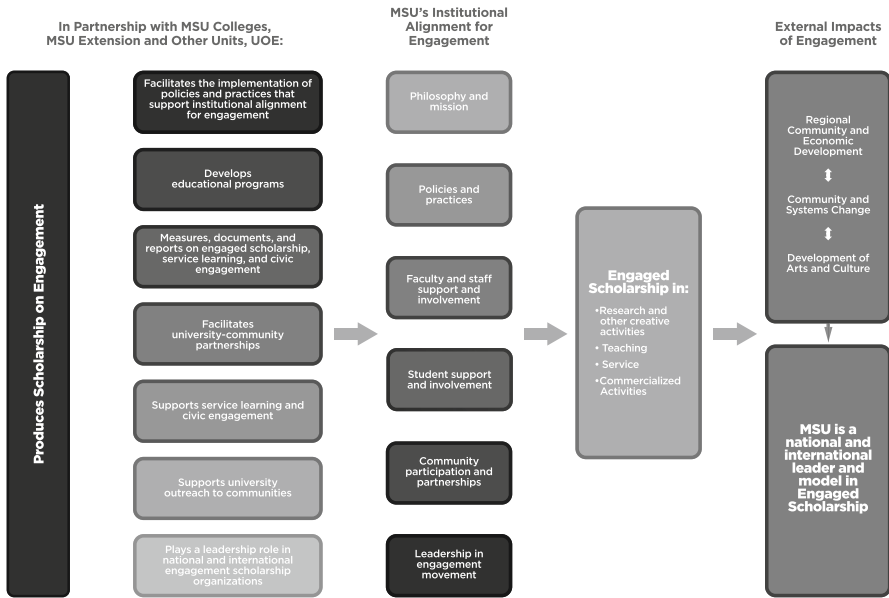
Strengthening the University's Stewardship

One of the practical realities is that community-based scholarship ultimately requires financial investments to achieve sustainable outcomes, regardless of its tame or wicked level of complexity. In nearly all cases, financial investment is a joint commitment of the university and its community partner. Sometimes funding is provided by federal or state granting agencies, sometimes by non-profit foundations, and sometimes by local communities. Increasingly, universities must provide real or in-kind matching funds to demonstrate their investment in change efforts. Defining community engagement scholarship as a cross-cutting form of research, teaching and service, enabled us to determine that faculty time allocated to such scholarship generates a 6.97:1 return on investments for MSU, or in 2013, nearly $397 million generated to $57 million of faculty time invested.

Developing Infrastructure Support for a Fully Engaged University

A fully engaged university enacts institutional alignment with policies and practices that demonstrably support the integration of community engagement scholarship with the core functions of the academy: research, teaching, and service. Indicators of institutional alignment are beginning to converge around a number of key policies and practices related to the institutional context, philosophical foundation and mission, organizational structures, institutional investments, documentation and evaluation, hiring, reappointment, and tenure and promotion processes, faculty

In Partnership with MSU Colleges, MSU Extension and Other Units, UOE:

MSU's Institutional Alignment for Engagement

External Impacts of Engagement

Produces Scholarship on Engagement

Facilitates the implementation of policies and practices that support institutional alignment for engagement

Develops educational programs

Measures, documents, and reports on engaged scholarship, service learning, and civic engagement

Facilitates university-community partnerships

Supports service learning and civic engagement

Supports university outreach to communities

Plays a leadership role in national and international engagement scholarship organizations

Philosophy and mission

Policies and practices

Faculty and staff support and involvement

Student support and involvement

Community participation and partnerships

Leadership in engagement movement

Engaged Scholarship in:
• Research and other creative activities
• Teaching
• Service
• Commercialized Activities

Regional Community and Economic Development

Community and Systems Change

Development of Arts and Culture

MSU is a national and international leader and model in Engaged Scholarship

Fig. 3.3 Office of the Provost, University Outreach and Engagement. Process Model guiding institutional alignment of community engagement scholarship across the teaching, research, and service missions of Michigan State University (Reprinted by permission of the publisher)

and student education and development, community supports, and recognition and awards (Beere et al. 2011; Furco and Holland 2004; Van Egeren et al. 2014). One indicator of the university's commitment to engaged scholarship is investment in an office charged with supporting faculty, staff, and students to develop and sustain mutually beneficial relationships with community partners that result in engaged scholarly outcomes – research and creative outputs, learning experiences, and knowledge and products that benefit the public.

MSU's Office of University Outreach and Engagement (UOE) was established within the Office of the Provost specifically to support the engaged scholarship mission of the university. The timeline of changes in the nomenclature and direction of the office are shown in Table 3.1. Particularly in the past decade, UOE has undergone a process of review and revision to identify critical areas and activities through which the office can facilitate alignment of scholarly engagement across the university. The resulting UOE Process Model (Fig. 3.3) illustrates the ultimate engagement goal of the university – to transform communities through the engaged scholarship of faculty, staff, and students. UOE's role is to implement activities that promote institutional alignment for engagement to ensure that community-engaged scholarship is high quality, recognized, and identified by community as necessary, applicable, and valuable. Within each of the activity areas and in partnership with units around campus as well as community partner representatives, UOE work teams focus on the following areas and activities:

- *Policies and practices that support institutional alignment for engagement*: Activities include identification of alignment indicators, a benchmarking study to assess the status of institutional alignment and highlight target areas for development, and development of a network of community "Fellows" to assist in the identification and monitoring of priority issues of community concern.
- *Educational programs to build capacity for scholarly engagement*. Activities include development and implementation of a transcriptable graduate certification in community engagement, online modules for undergraduate introduction to engagement, and faculty/administrator education on engaged scholarship in promotion and tenure and in science communication.
- *Measurement and documentation to recognize engagement activity and impacts*. Activities include conducting an annual survey of all faculty and staff to report on community engagement scholarship, responding to institutional accreditation and other self-studies, coordinating recognition/awards efforts, and disseminating information about university-community engagement activities to university leaders and stakeholders, including the general public.
- *Partnership facilitation to connect faculty and community partners*. Activities include building and maintaining community partner networks within regions, topical areas, and populations as well as networks of faculty who desire to engage in those arenas.
- *Service-learning and civic engagement support*. Activities include development of resources to assist faculty and students to participate in service-learning activities–including academic service learning courses – that have both civic and personal purpose.
- *Outreach support*. Activities involve creating greater public access to University resources and faculty expertise through educational programs (e.g., gifted and talented, museum, and performing arts), public festivals (e.g., folk culture, jazz, science), community-based hubs (in Lansing and Detroit), and catalog websites (e.g., resources and programs for professionals and school children).
- *Organizational leadership*. Activities include fulfilling leadership roles in key state, regional, national, and international university engagement organizations to advocate for and promote a culture supportive of community engagement scholarship across higher education.

UOE will continue to adapt the ways in which it supports its constituents of faculty, staff, students, and community, and this model will no doubt change. A predominant focus of the UOE will, nonetheless, always be to ensure that community engagement is not only viewed as a public good, but of inextricable benefit to the university's integrative scholarship.

After Thoughts

Twenty-first century challenges for higher education include the need to prepare a workforce competent to solve problems using existing knowledge, and equally competent to contribute to transdisciplinary efforts to solve problems that are embedded within complex systems. This challenge meets universities at the nexus of what they do to educate students and what they do to improve community, economic, and family life. Confronting problems within the context of community-university interplay can facilitate the development of conceptual and quantitative models designed to assess the relation between programmatic interventions and the complex systems one is attempting to change. Creating effective partnerships is another area in which community input can enhance the authenticity of community engagement scholarship. Viewing partnership development from only one direction excludes the reciprocity and critical self-reflection that are integral aspects of engagement scholarship. The expression, "bringing knowledge to life" is often used to convey the transfer of knowledge from university to community. But bringing knowledge to life gains considerably more authenticity if it also involves bringing life to knowledge. Bringing life to knowledge is perhaps the most important contribution that community offers to universities, and with regard to addressing the wicked problems of complex systems, it may very well be indispensable.

References

Albritton, F. P., Jr. (2009). Humboldt's unity of research and teaching: Influence on the philosophy and development of higher education in the United States. *The FedUni Journal of Higher Education, 4*, 7–19.

Alpaslan, C. M., & Mitroff, I. I. (2011). *Swans, swine, and swindlers: Coping with the growing threat of mega-crises and mega-messes*. Stanford: Stanford University Press.

Anderson, R. (2006). *British universities past and present*. London: Hambledon Continuum.

Ashby, W. R. (1961). *An introduction to cybernetics*. London: Chapman.

Beere, C., Votruba, J., & Wells, G. (2011). Becoming an engaged campus. In *Becoming an engaged campus: A practical guide for institutionalizing public engagement*. San Francisco: Jossey-Bass.

Bonnen, J. T. (1998). The land-grant idea and the evolving outreach university. In R. M. Lerner & L. A. K. Simon (Eds.), *University-community collaborations for the twenty-first century* (pp. 25–70). New York: Garland.

Boyer, E. L. (1996). The scholarship of engagement. *Journal of Public Service and Outreach, 1*, 11–20.

Boyte, H. (2004). *Everyday politics: Reconnecting citizens and public life*. Philadelphia: University of Pennsylvania Press.

Brown, V. A. (2010). Collective inquiry and its wicked problems. In V. A. Brown, J. A. Harris, & J. Y. Russell (Eds.), *Tackling wicked problems through the transdisciplinary imagination* (pp. 61–81). New York: Earthscan-Routledge.

Brown, J. A., Harris, V. A., & Russell, J. Y. (Eds.). (2010). *Tackling wicked problems through the transdisciplinary imagination*. New York: Earthscan-Routledge.

Duley, J. S., & Springer, N. C. (2013). Service learning and civic engagement as preparation for a life committed to working for the common good: The Michigan state university/rust college student tutorial education project, 1965–1968. In H. E. Fitzgerald & J. Primavera (Eds.), *Going public: Civic and community engagement* (pp. 107–130). East Lansing: Michigan State University Press.

Dzisah, J., & Etzkowitz, H. (Eds.). (2012). *The age of knowledge: The dynamics of universities, knowledge and society*. Leiden: Brill Academic Publishers.

Ehrlich, T. (2000). *Civic responsibility and higher education*. Westport: Oryx Press.

Etzkowitz, H. (2008). *The triple helix: University-industry-government innovation in action*. New York: Routledge.

Feigenbaum, M. J. (1980). Universal behavior of nonlinear systems. *Physica, 7*(D), 16–39.

Fitzgerald, H. E., & Simon, L. A. K. (2012). The world grant ideal and engagement scholarship. *Journal of Higher Education Outreach and Engagement., 16*(3), 33–55.

Fitzgerald, H. E., & Zeintek, R. (2015). Learning cities, systems change and community engagement scholarship. In S. Leodis (Ed.), *Learning cities for adult learners. New directions for adult and continuing education, 145*, 21–33.

Fitzgerald, H. E., Allen, A., & Roberts, P. (2010). Campus-community partnerships: Perspectives on engaged research. In H. E. Fitzgerald, C. Burack, & S. Siefer (Eds.), *Handbook on engaged scholarship: Contemporary landscapes, future directions. Community-campus partnerships* (Vol. 2, pp. 5–28). East Lansing: Michigan State University Press.

Fitzgerald, H. E., Bruns, K., Sonka, S. T., Furco, A., & Swanson, L. (2012). Centrality of engagement in higher education. *Journal of Higher Education Outreach and Engagement, 16*(3), 7–27.

Forrester, J. W. (1961). *Industrial dynamics*. Cambridge, MA: MIT Press.

Furco, A. (2010). The engaged compus: Toward a comprehensive approach to public-engagement. *British Journal of Educational Studies, 58*(4), 375–390.

Furco, A., & Holland, B. (2004). Institutionalizing service-learning in higher education: Issues and strategies for chief academic officers. In M. Langseth & S. Dillon (Eds.), *Public work and the academy*. Bolton: Anker Publishing Company.

Glass, C. R., & Fitzgerald, H. E. (2010). Engaged scholarship: Historical roots, contemporary challenges. In H. E. Fitzgerald, C. Burack, & S. D. Seifer (Eds.), *Handbook of engaged scholarship: Contemporary landscapes, future directions* (pp. 9–24). East Lansing: Michigan State University Press.

Guest, D. (1991, September). The hunt is on for the Renaissance Man of computing. *The Independent*.

Hodges, R. A., & Dubb, S. (2012). *The road half traveled: University engagement at a crossroads*. East Lansing: Michigan State University Press.

Kotter, J. P. (2012). *Leading change*. Boston: Harvard Business Review Press.

Lawrence, R. J. (2010). Beyond disciplinary confinement to imaginative transdisciplinarity. In V. A. Brown, J. A. Harris, & J. Y. Russell (Eds.), *Tackling wicked problems through the transdisciplinary imagination* (pp. 16–30). New York: Earthscan-Routledge.

Leonard-Barton, D. (1995). *Wellsprings of knowledge: Building and sustaining the sources of innovation*. Cambridge, MA: Harvard Business School Press.

Levine, R. L., & Fitzgerald, H. E. (Eds.). (1992). *Analysis of dynamic psychological systems: Basic approaches to general systems, dynamic systems, and cybernetics*. New York: Plenum Press.

McNall, M., Barnes-Najor, J. V., Brown, R. E., Doberneck, D., & Fitzgerald, H. E. (2015). Systemic engagement: Universities as partners in systems approaches to community change. *Journal of Higher Education Outreach and Engagement, 19*, 1–25.

Newfield, C. (2008). *Unmaking the public university: The forty year assault on the middle class* (p. 259). Cambridge, MA: Harvard University Press.

Paynter, S. (2014). Tackling wicked problems through engaged scholarship. *Journal of Community Engagement Scholarship, 7*, 48–59.

Russell, J. Y. (2010). A philosophical framework for an open and critical transdisciplinary inquiry. In V. A. Brown, J. A. Harris, & J. Y. Russell (Eds.), *Tackling wicked problems through the transdisciplinary imagination* (pp. 31–60). New York: Earthscan-Routledge.

Simon, L. A. K. (2009). *Embracing the world grant ideal: Affirming the Morrill Act for a twenty-first century global society*. East Lansing: Michigan State University.

Snyder, T. D. (Ed.). (1993). 120 years of American Education: A statistical portrait. National Center for Educational Statistics. Washington, DC: U.S. Department of Education, Office of Research and Improvement.

Southern Regional Education Board. (1969). *Service-learning in the south: Higher education and public service*. Atlanta: Southern Regional Education Board.

Stanton, T., Giles, Jr., D., & Cruz, N. (1999). Empowering students to serve communities. In *Service-learning: A movement's pioneers reflect on its origins, practice, and future*. San Francisco: Jossey-Bass.

Taleb, N. N. (2012). *Antifragile: Things that gain from disorder*. New York: Random House.

Tapia, M. (2013). Engagement of the Latin American university: Roots and contemporary developments. In C. Escrigas, J. G. Sanchez, B. Hall, & R. Tandon (Eds.), Higher education in the world 5. *Knowledge, engagement & higher education: Contributing to social change* (pp. 171–285). New York: Palgrave MacMillan.

Tapia, M. N., & Mallea, M. M. (2003). Service learning in Argentina. In H. Perold, S. Stroud, & M. Sherraden (Eds.), *Service enquiry: Service in the 21st century* (pp. 203–215). Johannesburg: Global Service Institute and Volunteer and Service Enquiry Southern Africa.

Van Egeren, L. A., McNall, M., Cloutier, K., Bargerstock, B. A., & Doberneck, D. M. (2014). A framework for policies and practices for institutional engagement. Paper presented at the *engagement scholarship conference*, Edmonton, Alberta, Canada, November 2014.

von Bertalanffy, L. (1968). *General systems theory*. New York: George Braziller.

von Neumann, J. (1923/1996). *Mathematical foundations of quantum mechanics* (R. T. Beyer, Trans.). Princeton: Princeton University Press.

von Neumann, J. & Morgenstern, O. (1944/2007). *Theory of games and economic behavior*. Princeton: Princeton University Press.

Wiener, N. (1948). *Cybernetics*. Cambridge, MA: Technology Press.