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## Chapter

# Perspective Chapter: Organizational Ecology: Evolving Realities in Higher Education from Cholera to Covid - A Michigan State University Planning and Design Case Study

*Bin Wen, Jing Zhou, Lijun Hao and Jon Bryan Burley*

## Abstract

This manuscript is a narrative concerning the evolution of Michigan State University (MSU), the first American Land-grant school and the development of planning and design instruction and research at MSU from the 1860s until the present time, including adaptations in the post-Covid era. Covid is not the first epidemic to influence higher education at MSU, as the school had to adapt to Cholera (1832–1866), Scarlet Fever (1858), Typhoid Fever (1906–1907), H1N1 Flu (1918), Diphtheria (1921–1925), Polio (1916–1955), H2N2 Flu (1957), Second Measles Outbreak (1981–1991), H1M1 Flu (1991), Meningitis (1997 to present), Whooping Cough (2010, 2014), HIV and Aids (1980 to present), and Covid (2020 to present). The narrative presents a depiction of the changing organizational structure/network over time, illustrating the transformations in the sciences, arts, funding, and publication demands with comments, observations, and insights offered by Dr. Burley, FASLA, a now retired MSU landscape architecture faculty member with questions posed by the coauthors. The paper is in the form of traditional historic criticism essays meant to interpret events and activities. To critique does not have negative intent, but rather to bring understanding. The paper illustrates the transition from a German academic model to a diversified free-form education model.

**Keywords:** landscape architecture, public health, higher education, organizational ecology, environmental design

## 1. Introduction

Many universities in the United States such as Michigan State University (MSU) have a relatively long history and association with landscape architecture and thus campus planning and design [1]. Over this time period, students and the educational

institution have experienced a number of public health adversities, including: Cholera (1832–1866), Scarlet Fever (1858), Typhoid Fever (1906–1907), H1N1 Flu (1918), Diphtheria (1921–1925), Polio (1916–1955), H2N2 Flu (1957), Second Measles Outbreak (1981–1991), H1M1 Flu (1991), Meningitis (1997 to present), Whooping Cough (2010, 2014), HIV and Aids (1980 to present), and Covid-19 (2020 to present). While the educational setting evolved, the response to these public health situations remained similar until the Covid-19 pandemic. The pandemic may have facilitated a change in the business of higher education from a place-based organization to an evolving distributed pattern. This book chapter describes this evolution from initial beginnings landscape architecture education at the Michigan State campus to the present condition.

## **2. Beginnings**

MSU is widely known as teaching the first full-term semester course in higher education addressing the design of the exterior environment, found in either Europe or North America, taught by Albert N. Prentiss (1836–1896) sometime starting between 1863 and 1865 and was required by all students attending the university [1–3]. Albert Prentiss was a member of the first graduating class at MSU in 1861 and eventually went on to teach and do research at Cornell University. Kansas State University began offering a course concerning the design of the exterior environment in about 1876, and over time, many more schools initiated such coursework [4]. Comparatively, Europe's first university course was taught at Versailles in 1878 [5]. By 1898, a complete undergraduate curriculum at MSU was offered in landscape architecture or landscape gardening as O.C. Simonds (1855–1931) preferred to call the profession at the turn of the century. At the time, the thoughts, opinions, and preferences of O.C. Simonds, a founding member of the American Society of Landscape Architects (ASLA), had great persuasion and influence in the Midwest [2, 6]. The offering of the landscape degree granting program at MSU is older than the ASLA (1899) and older than the first graduate-level program in landscape architecture at Harvard University (1900) [2]. The curriculum and degree were offered through the Department of Horticulture, with the first graduation of a student occurring in 1902, the same time as the first landscape graduation at Harvard. Many of the students in the MSU program, Harvard, and eventually other schools became campus planners and designers as part of their professional practice, such as the first MSU graduate T. Glenn Phillips (1877–1945), who developed a campus plan for MSU [7, 8]. During these formative beginnings, it was a time when the profession was defining itself with several competing visions and approaches. But today, the term landscape architecture has been widely adopted over landscape gardening or landscape engineering and has carved its place within the planning and design professions, addressing any issue where the natural and built environment require thoughtful physical planning, design, and management. Landscape architecture is now being taught in many great universities around the world.

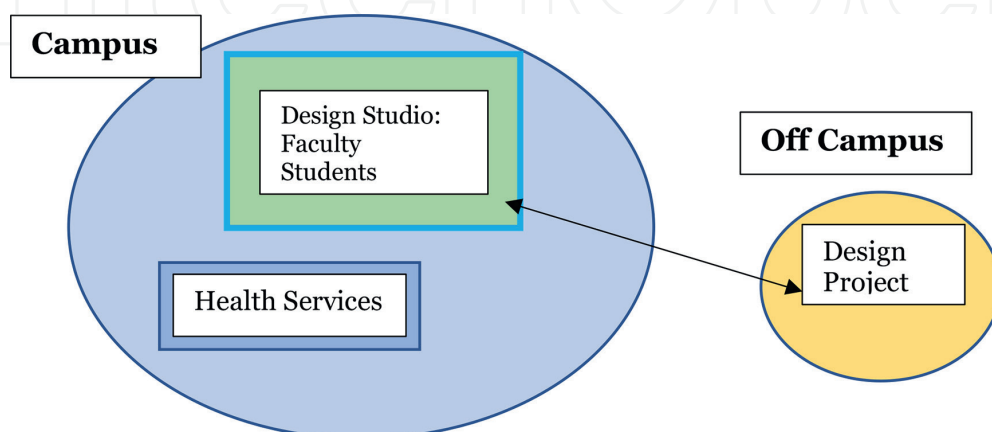
As with any institution, student, staff, and faculty health at an academic institution are of a constant concern. In response to the growing numbers in the student body as enrollment grew, health services were first initiated within the university's president's home, eventually moving by 1894 into a seven-room home located where the Student Union is now standing [7]. Finally, in 1939, the Olin Memorial Hospital (now the Olin Memorial Health Center) with 60 beds served the campus,

with additions and remodels in 1956 and 1969 [7]. **Figure 1** represents the graphical relationship of the institution's health services and landscape architectural education during the Charles Parker Halligan and Harold Lautner years (1907–1972) as defined by Burley and colleagues [2, 9].

Students worked under the direct supervision of a faculty member at a studio desk within an open classroom environment. This was the classic German model of institutional higher education, where the professor speaks and the students listen, guided by academic freedom, and the arts and sciences, known as the Humboldtian model [10]. Design projects were typically off the campus, comprising parks, residential, commercial, and transportation settings. Faculty, student, and staff health services were in a nearby building on campus.

### 3. Campus setting as a research laboratory: from design projects to research projects

While most projects were from outside the bounds of the campus, for landscape architects, the campus itself could become a lesson and opportunity to study planning, design, and construction concerning people and environment meaning the university, places, and people that inhabit it. This was the hope and aspiration of MSU when it was founded that students and faculty would engage the world in a scholarly manor to build new knowledge to assist the human condition [2, 11]. When MSU was established, scholarly contributions were seen as unnecessary and impractical by many Michigan residents—the conflict almost closed the school [1]. But over time, the importance of knowledge-building became more broadly accepted and adopted. Building new knowledge in agriculture, biology, and chemistry at MSU was quickly embraced. But it took time for some subject areas such as landscape architecture to become truly a knowledge-building contributor too as the founders of MSU had envisioned. The American Society of Landscape Architects present documentation on the types and extent of research being conducted during the time period 1971–1972 by American-accredited landscape architectural programs; while it shows some activity, it is easy to interpret by the titles, the profession had much to learn about the nature of research, the types of questions that can be asked, and how to analyze data [12]. “I admire the struggles within landscape



**Figure 1.** This graphic illustrates the general organizational structure concerning public health and planning and design projects and for education during much of the twentieth century at Michigan State University.

programs to present a scholarly face, but it is clear from the report, there was a lack of depth and some attempts of showing more than really exists. I am sure that the scientific community at each campus could see right through this.” observed Dr. Burley. Back in the 1970s and 1980s, MSU almost lost its patience with landscape architecture. While the program had a highly regarded reputation for professional education, its scholarship production was quite low. After urging and prodding with little progress, MSU considered eliminating landscape architecture from its mission. “I can understand why.” stated Dr. Burley. “Back in 1978, I was a student at the University of Minnesota. I published an insignificant two-page article as an undergraduate [13]. It was more than the total scholarly output of the MSU landscape architecture faculty in 1978 [14]. At best, the total output from the MSU landscape architecture faculty (other than extension materials) was one letter to the editor of Landscape Architecture Magazine. It is not good when a lowly unknown undergraduate from Minnesota “out-publishes” a whole group of landscape faculty at a major Tier I research institution.” noted Dr. Burley. The Urban Planning faculty at MSU were fairing much better in their publication rate [14].

To illustrate the expectations of a Tier I research university, the example provided by George J. Wallace on the MSU campus is an interesting tale. It is not a landscape architecture planning and design story, but it typifies what can be accomplished. It is one of the classic narratives, but often an untold story outside the MSU campus. The research story took place right in the sacred open space circle of the MSU campus, a space identified and protected in a campus 1906 masterplan by Ossian Cole Simonds [2]. The campus had English landscape school settings as an environment to enrich and nurture students (**Figure 2**). But back in the 1950s,



**Figure 2.**

*A view of circle drive near the time period of the work by O.C. Simonds and then T. Glenn Phillips with the sacred space on the right. In the background are a cluster of buildings where landscape gardening (landscape architecture) was first taught at the university level and then begun as a full university curriculum as a continuous program (1898 to the present). The current School of Planning, Design, and Construction resides to the left of the image in a renovated Home Economics Building, now known as the Human Ecology Building. Because of the efforts of George J. Wallace, this landscape has influenced lives around the world (Dr. Burley personal archives, used by permission).*

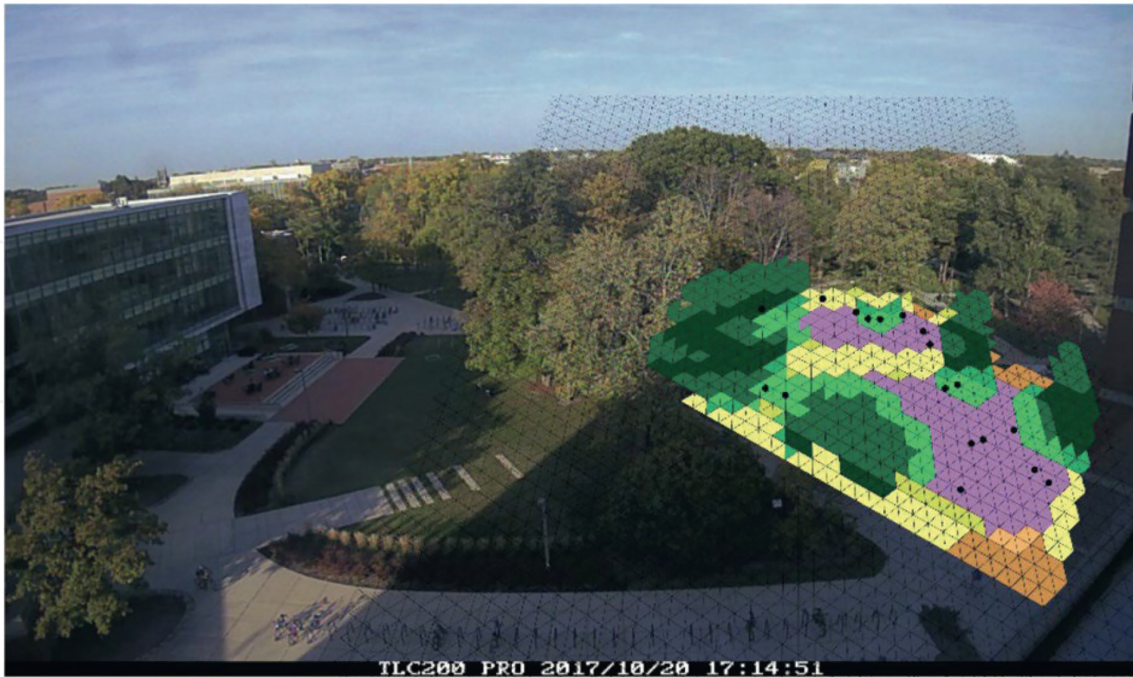
George J. Wallace, a Michigan State ornithologist conducted his famous study on American robins (*Turdus migratorius* L. 1766) in a landscape that was intended to be passive recreational and intellectually nurturing. Instead it was a research site. He reported upon the devastating effects of DDT (Dichlorodiphenyltrichloroethane). His work was described in a 2008 Emmy winning documentary *Dying to be Heard* by professor Lou D'Aria and his students in MSU's Knight Center for Environmental Journalism and first told in an editorial article by [15]. Wallace's research was one of the featured studies reported by Rachel Carson in her book *Silent Spring* [16]. Without the research efforts of individuals such as Wallace, Carson would have had little evidence to illustrate her position. Carson's book has been described as one of the top 25 most influential books concerning science of all time [17]. The connection to a campus landscape and research upon that landscape is an interesting story. The campus itself is a place to discover and learn. No longer does one just learn the ideas and thoughts of scholars from far-away places and times, but the new discoveries occur right on campus.

Similar ideas about the education setting being a place of knowledge building and learning addressing the environment were presented by Honeyman and Honeyman [18]. Their planning and design setting as an elementary school in Washington, D.C. Thus the transformation was occurring in some educational settings for elementary kids and was to occur at MSU too.

To initiate the change at MSU, Dr. Jo Westphal was hired in the 1980s. And times have changed, now the MSU faculty are in the top 10 in scholarly citations for landscape architecture programs in the USA and in the top 20 in the world, a real transformation. "And this transformation has happened at many Big Ten, PAC 12, and land-grant universities with landscape architecture programs in the United States and across the globe from Indonesia, Taiwan, P.R. of China, Thailand, Philippines, S. Korea, and Japan to the United Kingdom, the Republic of Ireland, Iceland, Australia, New Zealand, the Netherlands, Belgium, France, Portugal, Germany, Norway, Sweden, Italy, Estonia, Finland, Austria, Turkey, and Canada, plus many other locations," observed Dr. Burley. "Schools like Texas A&M University, Rutgers University, University California Davis, University of Guelph, University of Maryland, Michigan State University, Arizona State University, University of Minnesota, University of Illinois, and Utah State University are the leading North American universities in landscape research. It is a very different list than the respondent perception surveys reported by DesignIntelligence. The perception of individuals in the profession responding to perception surveys have not kept pace the changes and realities in academia," advised Dr. Burley [19].

Michigan State University campus became an environment for planners and designers to study and to generate new knowledge in planning and design. The following passages and pages describe research and projects in this new organizational model. Because it is relatively new to the profession, it may be worth some time exploring a few pertinent examples.

Recently, Rachel Wilke, a landscape architecture student at MSU earning her master's of environmental design, studied an open space near the International Center, along the Red Cedar River with remote cameras to investigate open-lawn chair use (**Figure 3**) and placement by students [20]. The study was reminiscent of the effort by William Whyte studying urban plazas in New York City with celluloid film [21]; but today, visual data can be collected remotely and entered into a computer for further analysis. It is a very useful tool and can be widely applied in spatial studies, especially in the social sciences. Dr. Linda Nubani, a past president of the Environmental Design



**Figure 3.**  
*An image of Rachel Wilke's study area from a remote camera with an overlaying study grid (copyright © 2019 Rachel Wilke, all rights reserved, used by permission).*

Research Association (EDRA), MSU Interior Design, School of Planning, Design, and Construction faculty member, and Rachel's major committee member stated, "I have enjoyed how Rachel Wilke based her research on William Whyte's methods of the use of time-lapse photography in analyzing human behavior around nomadic chairs on one of our campus's plazas." Dr. Burley further noted, "I had met William Whyte at the University of Minnesota in about 1977 or 1978 when he showed his films of people in plazas. Today the general methodological premise is the same, but the tools have advanced."

Like many great universities with talented and ambitious landscape architecture students, the students and faculty at MSU participate in many kinds of planning and design competitions and projects. Amada Wakefield, another MSU landscape architect earning her master's of environmental design, participated in a team that won first place in the 2019 National Association of Home Builders Student Competition in Las Vegas, Nevada, for a site in Oklahoma. The team comprised a landscape architect, an interior designer, and construction management students, led by construction management, School of Planning, Design, and Construction faculty member Dr. George Berghorn. "Having an integrated NAHB student competition team comprised of both construction and design students not only embodies the principles of the School of Planning, Design & Construction (SPDC), but strengthens the connections among our students and among our faculty. This experience gives our students the opportunity to see how integrated design and construction planning happen in the real world and adds a real strength to our programs," stated Dr. Berghorn. Another project that Dr. Berghorn was involved with was Sparty's Cabin (**Figure 4**), a mini-home/tiny house initiated by an MSU interior design student, Tiffany Pupa, and involved many students in SPDC. Schools with planning and design faculty and students are very busy in many engaging ways. Academia is much more than lectures and



**Figure 4.**  
*Sparty's cabin in the MSU Breslin center (copyright © 2016, Dr. Jon Bryan Burley, all rights reserved, used by permission).*

studios with students biding their time until they can enter the profession, although there is an abundance of lectures and studio projects too.

The campus is often a setting for students to develop their professional skills in planning and design in other ways too. Na Li and Yiwen Xu, both landscape architecture students and who also each earned a master's in environmental design, headed an interdisciplinary team to develop spaces for students and to manage water. The effort earned second place in the Environmental Protection Agency's campus stormwater storm water challenge in 2013 (**Figure 5**). Dr. Burley was the campus advisor for the competition. "It is always a pleasure to work with such great, talented, and motivated students," notes Dr. Burley. Na Li is an excellent artist and conducted an ordination of designer, artists, and instructor principles to create landscapes, drawings, and paintings [22]. Her ordination discovered the drawing instructors emphasize line, landscape designers emphasize composition, and painters emphasize color. Yiwen Xu investigated an ordination of traditional Chinese landscapes and modern Chinese landscapes. She reported that traditional Chinese landscapes are tightly grouped around a common point, attempting to create similar environments, while the modern designers are all widely dispersed creating individually unique environments ranging from softscapes to hardscapes [23]. Yiwen's research won an award by the Michigan Chapter American Society of Landscape Architects. Na Li and Yiwen Xu teamed with Hongwei Tian and others to study design alternatives associated with the MSU medical campus in Grand Rapids, Michigan [24]. This study also earned a Michigan Chapter ASLA award. Studying the campus involves more than just landscape architects. Kristy Kellom, an interior design Ph.D. Student and instructor, in the School of Planning Design and Construction, is studying safety related to active shooters and has won two Environmental Design Research Association (EDRA)





**Figure 5.** A virtual image of a portion of the entry by an MSU for the Environmental Protection Agency's campus stormwater challenge in 2013 (copyright © 2013 Brock downs, Na Li, and Yiwen Xu, all rights reserved and used by permission).

posters in the student competition (**Figure 6**). Recent high-profile incidents have spurred increased discussion surrounding preparedness against active shooter impact. The purpose of this research is to evaluate an existing educational facility regarding preparedness against active shooter impact and to propose safety improvements. Dr. Nubani notes, “Kristy Kellom’s research is aligned very well with the development of the most recent NFPA3000 standards that address the need for preparedness against active shooter incidents. Kellom’s research offered a behavioral analysis of students on a normal day and what design features may help them respond quickly to these incidents and what design features need to be modified.” Dr. Burley adds, “Scholarship in planning and design has certainly been transformed at places like MSU. The visions of the school’s founders is certainly unfolding in a very positive manner.”

The scholarly nature of the MSU setting allows students to study both conditions on the campus landscape as well as environments around the world. Another award-winning Chinese student, Haoxuan Xu studied and compared cemeteries in Michigan and China by ordinating the characteristics of these cemeteries [25]. An interesting award winning social science study was conducted by Ellen Daniels, but not on the campus. She studied queue lines at a theme park in Florida [26]. She believed that the efforts by the theme park to entertain visitors in long lines waiting for a theme park ride coped better while in line through the efforts of entertaining the visitors; however, she discovered that these efforts only accounted for 20% of the variance.; instead, she discovered that fatigue throughout the day was a better predictor of visitor’s experience waiting in line. As the day “wore-on,” the visitors experienced fatigue. The study revealed the importance of recovery environments to relax (play miniature golf, swim, eat food, enjoy an event, walking in gardens, converse with family and friends) were important features in the total experience, maybe more important than entertaining visitors during their time waiting in line. “Being a good investigator means letting the data reveal the results. Ellen discovered something she did not expect when she conducted the study,” explained Dr. Burley. “She learned about how to conduct research at MSU and did her analysis at MSU, but her study area was beyond the campus. Her study area and the campus are linked together through



**Figure 6.** A poster by Kellom, K., with advisors Kim, J., and Nubani, L. (2019, may 25). A design-oriented approach of preparedness against active shooters: A case of evaluating a university student lounge. In sustainable urban environments EDRA50. Brooklyn, NY. Environmental design research association (copyright © 2019, K. Kellom, all rights reserved, used by permission).

her investigation. It is an example of how the campus is connected to other parts of the world,” added Dr. Burley.

In another award-winning study, Mengwen Feng, an MSU landscape architectural student and who earned her master’s in environmental design, coming from the Sichuan Province in the P.R. of China, where the deadly Wenchuan earthquake took place in 2008, studied how the composition of the built environment influenced survivor safety. Forty percent of deaths from an earthquake occur after the earthquake. The spatial patterns and conditions of the urban landscape influence survivorship. She studied spatial treatments to improve survivorship [27]. Kathleen Barry, a graduate of the MSU landscape architecture program and a graduate of the environmental design graduate program, studied visual quality in Aspen, Colorado, and determined that visual quality was improved if each location in the town contained at least a partial view of the mountains [28]. Her study earned a Michigan Chapter ASLA award. Wesley Landon, an MSU landscape architecture student studied the paintings of Thomas Moran and how these paintings influenced the establishment of Yellowstone

National Park [29]. The paper won an award together with a French professor, presented by the Michigan Chapter of ASLA. “These students publish their research in conference proceedings and journals earning awards and recognitions. I am very proud of these students. It is a common occurrence,” acknowledged Dr. Burley.

Wade Lehman was a landscape architecture student and a graduate of the MSU environmental design master’s program. He was the first person in the world to develop a validated and replicated multi-species vegetation reclamation plan based upon multi-species fractal patterns [30]. “Wade measured forest stands in the Upper Peninsula of Michigan to develop his multi-species fractal patterns,” commented Dr., Burley. “I thought his work was brilliant, but seems to go unrecognized. Until Wade had done his investigation, no one had developed a science based tree pattern for multiple species, as everyone was just guessing and doing the work heuristically. The jury for his research seemed not to grasp the importance of his work. It seems sometimes investigators have results for questions that practitioners do not yet have. I know this because the late Stanley Hart White (1891-1979) from the University of Illinois invented/developed green walls (Botanical Bricks). It was only after his death that the idea had finally become popular in urban design,” observed Dr. Burley.

Landscape architecture students at MSU participate in a 7–8-week study abroad experience. Based upon this experience, students write and publish papers about the places they visit. Jeremy Monsma (Monsma, Miller and Burley 2011) wrote about Stourhead in the United Kingdom, Eric, Kopinski wrote about his visit to Giverny, France, (Kopinski and Burley 2013) and Villa Lante in Italy (Burley and Kopinski 2014), and Julie Casault wrote about Versailles, outside Paris, France (Casault and Burley 2010) [31–34]. Their efforts contributed to an award-winning landscape history book titled, *From Eye to Heart: Exterior Spaces Explored and Explained*, edited by Dr. Burley and Dr. Trisha Machemer, [35]. Xiao Hou (Mike) was so intrigued during his visit to Paris France, he studied social media and spatial artiailization suggesting that there were two types of spaces within historic Paris [36]. His research also earned a Michigan Chapter ASLA award. “At MSU, I am so impressed how our students engage themselves in study abroad. Some people imagine that the time is just an extended vacation, but in reality students employ their time wisely to learn and grow on the way to becoming professional planners and designers,” suggests Dr. Burley.

In a final example, Stephanie Onwenu, another MSU undergraduate student and environmental design master’s student, won first place design competition in the City of Detroit “Give a Park, Get a Park” with teammates Monique Basse and Sam Lindquist (**Figure 7**). This project provides a unique approach, through a combined community engagement and innovative design process, to help improve neighborhoods around Detroit. The city will “give a park” to neighborhood residents—a mid-block, decommissioned mini-park will be sold to adjacent community residents, allowing them to increase their stake in their neighborhood. Then, the same neighborhood will “get a park”—a larger park comprised of vacant, city-owned corner lots less than a mile from the former park. Since winning, the team has the opportunity to move forward with implementation of their plan in the Morningside neighborhood. One can learn more about this project here through GAPGAP promo video: [https://youtu.be/wzR\\_B\\_2zDBI](https://youtu.be/wzR_B_2zDBI). Stephanie was the College of Agriculture and Natural Resources Outstanding Student Leadership Award winner and delivered the graduation speech at the College Commencement Ceremony. Stephanie’s masters work focused upon “Way-finding Signage and Visual Attentiveness in Detroit Urban Spaces.” Her research study addressed two urban spaces: Grand Circus Park and

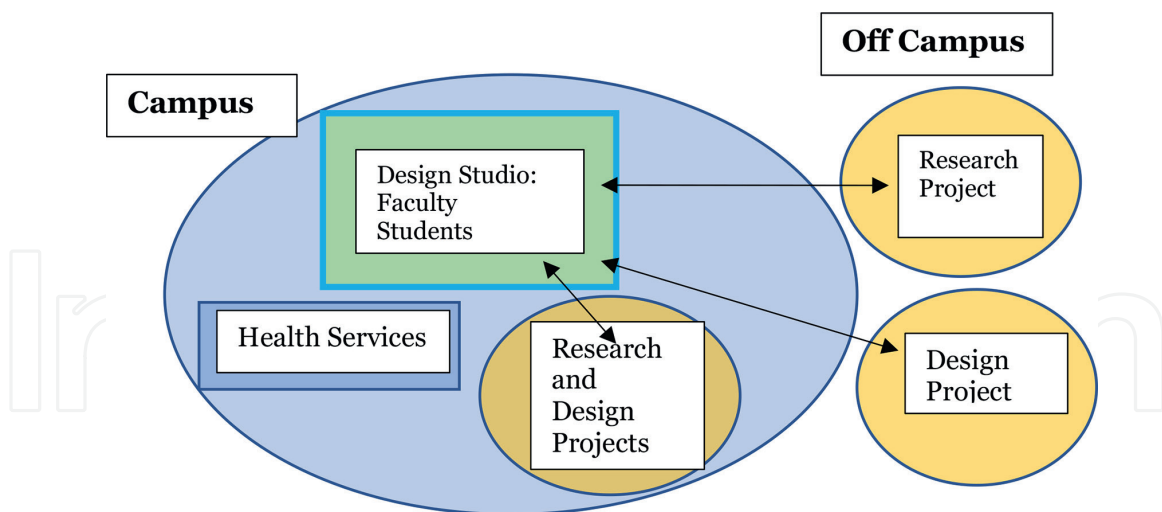


**Figure 7.** City of Detroit “Give a Park, Get a Park” competition board (copyright © 2018, Stephanie Onwenu, Monique Bassey and Sam Lindquist all rights reserved, used by permission).

Philip A. Hart Plaza both located in Downtown Detroit, MI. The study analyzed the visual attentive processing of existing Detroit signage to determine what way-finding signage types (i.e. trail, lamp post, and pavement) within Detroit urban spaces (both open and enclosed layout designed spaces) are visual attentive in winter and summer seasons. Findings from this research study showed both similarities and differences between the visual attentiveness of the way-finding signage types, the urban space layout designs, and temporal structures within urban spaces in the environment. “Stephanie is a wonderful person, dedicated, thoughtful, and imaginative. I am so proud of her. American universities are a much different place than just going to class, training to be a landscape architect. Working at an American university is extremely rewarding. Times have certainly changed since the days of professor Halligan and professor Lautner,” reflected Dr. Burley. **Figure 8** illustrates how the organizational structure had changed.

#### 4. Covid-19 and the restructuring of the educational setting

“In late December 2019, I had family members returning from China, reporting to me that there was a new bird-flu-like/swine-flue-like disease in Wuhan, Hubei, where



**Figure 8.**

*This graphic illustrates the revised general organizational structure concerning public health and planning and design projects and for education during much of the late twentieth and early twenty-first century at Michigan State University.*

they had been visiting friends. These friends were well connected to the pulse of the city. Before the New Year, I was already preparing plans for my research and courses in anticipation of a potential worldwide pandemic event. I mentioned it to a few colleagues working over the holiday break and their response was that I seemed alarmist. Still, I was unshaken in my impression that this could be serious. As it unfolded the outbreak changed most people's lives," recalls Dr. Burley. "By mid-March, MSU had initiated an on-line response with remote learning for most courses; and during January and February I had begun a research study modeling human behavior in recreation settings with a colleague in China, resulting in a publication," described Dr. Burley [37]. Online courses would continue for the next academic year.

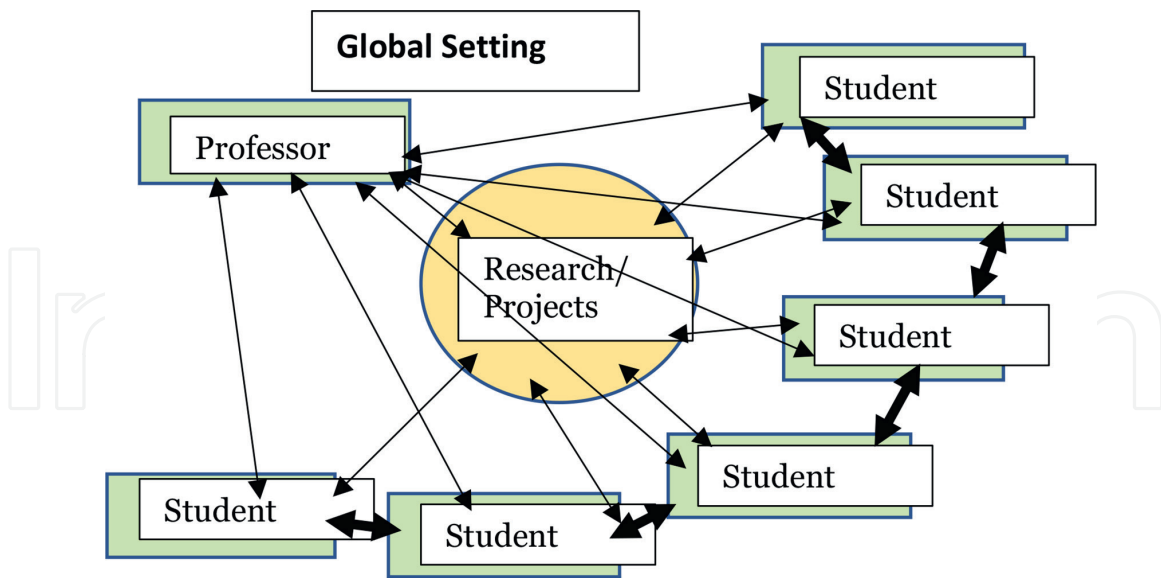
"I had had discussions with colleagues in professional practice concerning what they were doing for communications in their businesses. They told me that video technology was cumbersome and to be avoided. They indicated that the mobile phone with face-to-face interactions was quicker and more flexible," noted Dr. Burley. "I thought this made a lot of sense. It was immediate and I could draw/edit upon images students would send me and send right back to them. It was like I could be on call almost twenty four hours a day, seven days a week, avoiding proclaiming specific office hours and tiresome video conferencing meetings—call anytime. There was so much negative feedback from video conferencing meetings, and the technology required a good internet connection. I lived in the countryside, where often my internet was down because I had to rely upon a tower and dish to receive a quite weak and slow signal. Rain, wind, snow, and leaves would result in a disconnected signal. I spent my own money extending the receiving line 150 feet in a conduit to get a stronger signal from the tower, still any form of wind or precipitation would render the signal down—it was a nightmare. But my local mobile phone signal provider had upgraded their signal and if I was in the right place in my yard, I could connect 'fairly-well.' However, if I tied the phone to my computer in my house, the result was also poor, as I lived with a hill blocking the sight of the tower, so the phone would not improve my internet connection to my computer. Consequently, I was prepared to use a variety offered software: WhatsApp, WeChat, and FaceTime, to talk personally

and immediately to any student, many of whom were in Asia, at home engaging the university long distance,” explained Dr. Burley. “I started my day at 3 AM, as uploading large course files and reading e-mail was more reliable from 3 AM until 8 AM, after that, often I could not send or receive any e-mail until after 7 to 8 PM. I loved living in the restorative countryside, with a large garden by a lake, as landscape is very important to me (flowers, trees, insects, songbirds, small mammals, clean air, sounds of nature, and great visibility for viewing stars), but during my career, I relied on my university office for technology. MSU was very well wired for technology. Yet, now, I was not there anymore in my university office. Since the internet was unreliable after 8 AM, I would write papers and do research from 8 AM until Noon or 2 PM, putting in nine to eleven hour days, seven days a week. In the afternoon, I would have lunch, tend the garden, eat dinner, watch the news and be asleep by 8 PM. It was a good schedule for me,” recounted Dr. Burley.

“This schedule enlightened me to the possibilities of higher education in the future,” explained Dr. Burley. “Higher education was facing issues and problems. To maintain its standing/ranking as an institution, publications and research dollars were driving many academic institutions, as that was how they were measured. In the late 1990s, MSU began moving towards a Stanford model of higher education, with tenure stream faculty doing research and teaching graduate students, and instructors who at the time were not even considered faculty teaching undergraduates [38]. Academic programs that did not generate money were disbanded. MSU was redirecting funds to develop a medical campus and investing in big science, activities that would improve and maintain the school’s ranking. MSU eliminated some top ranked world academic programs because they did not ‘bring-in’ enough money. I cannot fault the leaders of the school, they were ‘looking-out’ for the ‘long-term’ health of the institution. But it did mean a different direction for the school. Before the school was known to have professors in the undergraduate classroom. But as the changes occurred, many senior professors agreed that the quality of education at the institution was diminishing and student tuition was being directed to facilitating the new ‘money-making’ prestigious activities. This change was typical of what was happening in many institutions of higher education. Curriculums were being ‘stream-lined’ and the number course offerings greatly reduced. It became difficult for students to find electives,” delineated Dr. Burley.

“These changes have influenced the perceptions about higher education by those who depended recently graduating students to enter their profession.” observed Dr. Burley [39]. “There is much thought given to what these changes might mean. In landscape architecture, the loss of curriculum in physical geography, soils, surveying, ecology, environmental psychology, and other basics means the landscape architecture may know less about the environment than previous students. In addition, the price of education continues to rise faster than the rate of inflation. Thoughtful leaders are considering abandoning academic institutions and forming new high quality on-line institutions to properly train professionals at a greatly reduced cost to the student. The Stanford model may not be benefitting planning and design professions. Certainly, such considerations are raising tensions between academic administrations and the needs of professions,” commented Dr. Burley.

“The Covid-19 pandemic and now even more recent highly contagious diseases may mean the brick and mortar place-based higher education may see a decline. Certain academic tracks may withdraw from the traditional high education model, something like in **Figure 9**. I must admit that the traditional academic model of paper



**Figure 9.**  
*This graphic illustrates a potential new vision for the education of trained professionals.*

writing and grant supported research has been a continuing nightmare for planning and design professions. The academic treadmill has been disastrous. Many retiring and resigning academics have very little positive to say about their former institution. Academia is like a ‘never-ending’ hungry child demanding more work hours, restrictions in other employment opportunities, only modest pay, more rules and paperwork, more published research papers, and more research dollars in their quest to maintain standing and ranking. It is sad but quite true. I have been in higher education for 45 years and it is a constant, observed phenomena,” relayed Dr. Burley [38].

If numerous professions follow this model (**Figure 9**), the impacts would be substantial for institutions of higher learning and on students. No longer would universities be a place to be away from home for young adults, no homecoming, no sports teams to support, no gathering at bon fires and the local pub with friends. The focus would be upon flexible academics from home at the reasonable price. Socialization activities would have to find new approaches. This would not sit well with the expectations of some. For others it would be ideal.

## 5. Concluding remarks

Changes in higher education have been dramatic. Individuals are considering new models for higher education (**Figure 9**). The unexpected impacts of Covid-19 may have hastened this change and exposed the realities and problems in higher education. The change may not be immediate, but at least now, there is serious consideration in response to the evolution of higher education for many places around the world. The future of higher education brick and mortar settings may become more similar to **Figure 10**, an image of a physics collider facility at MSU, conducting big science. A place where there was once many students studying the arts, sciences, and professions may be lost to only a few high-quality professors and their graduate students. The need for a campus as a restorative environment may be lost. The restorative environments may become the residential settings where people live and study. It is indeed a drastic change in the organizational structure of higher education.



**Figure 10.**  
*The new and emerging look of the Michigan State University campus, very different from the savanna-like campus it used to be.*

## Conflict of interest

The authors declare no conflict of interest.

## Author details

Bin Wen<sup>1</sup>, Jing Zhou<sup>2</sup>, Lijun Hao<sup>3</sup> and Jon Bryan Burley<sup>2\*</sup>

1 Hunan Agricultural University, Changsha, P.R. China

2 Michigan State University, E. Lansing, Michigan, USA

3 North China University Water Resources and Electric Power, Zhengzhou, P.R. China

\*Address all correspondence to: [burleyj@msu.edu](mailto:burleyj@msu.edu)

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