



Creative and Sustainable Town-Gown a Place Triad Genius Loci

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CREATIVE AND SUSTAINABLE TOWN-GOWN A PLACE TRIAD *GENIUS LOCI*

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Implementing creative and sustainable urban planning initiatives is rather challenging. This article argues that universities can become more relevant to underserved communities in their hinterlands by conducting town-gown citizen-science programs. Central to the article is a review of the most pertinent literature on public engagement, citizen-science, and other community based participatory methods utilized in the resolution of very complex health, social, environmental, and consumption problems. The research's analytical mechanism is centered on the triad of Placeless, Place and Non-Place *genius loci* of socio-spatial town-gown interventions. The curricular and pedagogical innovations identified entail the strengthening of citizen-science and design thinking in both high school and university education.

Urban planning; environmental justice; cultural heritage districts.

INTRODUCTION

Research puzzlement and hypothetical path

Town-gown applied learning activities constitute a useful methodology in many universities with undergraduate and masters programs in Urban and Regional Planning. Many of those programs involve capstone studios. Often clients approach the planning departments with requests for specific studies. The faculty, and student labor, is usually perceived as more affordable, more qualified, and under a veil of independence not easily found in professional consulting services provided by firms operating in the marketplace. However, the political economy of host cities tends to privilege certain places and neighborhoods at the expense of others.¹ Business districts, commercial corridors, residential suburbs, industrial areas, and parks and open spaces tend to receive the most attention. The research puzzlement of this article is that complex planning situations, such as environmental injustices, abandoned ethnic neighborhoods, and areas surrounding landfills,² require strong epistemological motivation to defray the

medium to long-term commitments necessary to turn those places around.³

Lack of integration between research and education is a common manifestation in higher education in the United States.⁴ Usually, research activities tend to emphasize the creation of new knowledge and the educational activities are aimed mostly at transmitting existing knowledge. It is argued that the gap between research and pure educational efforts could be bridged with citizen-science using participatory artistic and creative urban planning efforts. The freedom that is likely to result from not having to be constrained by a single paradigm enacts new thoughts, allows new rationales, and anticipates distinct courses of action that are likely to contribute to new worldviews on existing realities, and the conviction that the actions are worth sharing with others.⁵ The artistic pursuits around citizen-science concepts, urban design charrette activities, and other community-based participatory methods serve to integrate research and educational activities more comprehensively.⁶

Therefore, the hypothetical path forward is centered on the potential educational goals of those interventions that can strengthen citizen-science and design thinking in both high school and university education; and enable students, teachers and researchers with the capacity to learn and deploy a combination of environmental education, S.T.E.M. (i.e., Science, Technology, Engineering, and Math) and S.T.E.A.M. (i.e., Science, Technology, Engineering, Art, and Math) methods aimed at developing life-long learning and thinking skills, literacies and competencies.⁷ The empathy that results from individual and collective social struggles and the affirmation of one's own cultural values on an even playing field, as well as the personal feelings of having been able to accomplish challenging tasks, will serve to motivate individuals in advancing to higher levels of research and educational awareness as well as personal and professional realization. There is power in accomplishing something with acquired knowledge instead of being only the passive recipient of transmitted knowledge.

Objective, argument, and methodological approach

The main objective of this article is to study how universities can become more relevant to underserved communities and to demonstrate the use of engaged service-learning, citizen-science and other community based participatory methods in the partial resolution of very complex health, social, environmental, and consumption issues. The article argues the potential of town-gown citizen-science to better understand the proper siting and management of public housing developments and other sensitive infrastructure, the eradication of deeply imbedded racism behaviors, the celebration of diverse social and cultural heritage, and the accomplishment of more sustainable consumption practices, which are likely to result in less material being sent to landfills, and higher compost and recycling rates.⁸

The value of this approach is the leveraging of scientific, artistic and educational methodologies aimed at involving resident youth and their immediate social networks in the resolution of structurally complex territorial issues through a combined three-pronged approach to social problems: Research, implementation, and assessment of transformative and integrative town-gown practices and processes. The research's analytical framework in Figure 1 is developed from original conceptualizations by Relph and Augé and is centered on the triad of Placeless (e.g., environmental justice communities), Place (e.g., cultural heritage districts) and Non-Place (e.g., landfills) *genius loci* of socio-spatial town-gown interventions.⁹

New knowledge is often necessary to overcome community governance impasses between the need for more scientific data to support business as usual decisions and the need to foster informed and participatory action to resolve a real (i.e., not only perceived or socially concatenated) felt problem through the use of town-gown, citizen-science and creative and sustainable urban planning.¹⁰ The utilization of community based participatory methodologies at multiple levels has the potential to elicit novel understandings which may lead to real and transformative design interventions, regulatory and

social changes.¹¹ The potential impact of citizen-science programs is the opportunity to contribute to the resolution of environmentally unjust urban development, conserving unique built heritage and associated social practices, while fostering more sustainable consumption.

Figure 1 Analytical framework

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This article has resulted from extensive specialized literature and policy document reviews, and case study analyses conducted in conjunction with a multi-year research grant proposal written in response to a U. S. funding agency's solicitation. The reviews were complemented with semi-structured interviews and the author's visit to all sites identified in the paper and subsequent participation in public meetings. The analytical framework was derived from examining a typical regionally fragmented mid-size metropolitan area in the Northeast. The administrative home rule and the interspersed urban and rural topographical landscapes in the watershed are partially responsible for the regional fragmentation, while the unique urban/suburban agglomeration patterns, the corridor-like strip development, the location of various affordable housing projects near industrially-zoned land, and the economies of scale to locate a regional landfill within the borders of the metropolitan area, all serve to explain the complex metropolitan arrangement.

TOWN-GOWN COLLABORATIONS AND CITIZEN-SCIENCE

Town-gown collaborations aim to benefit both the university and its host community.¹² Many of those collaborations were initiated by Land Grant Universities as part of their institutional mission and Extension Services. In the late 19th and early 20th centuries this symbiosis enabled communities to benefit from resources available in the university and for the university to transmit knowledge to the host

community. This happened while teachers, students and community members benefit from the latest developments in specific fields, such as agriculture, community development, family planning and quality of life, and technological developments. More recently, these collaborations have become more pervasive and utilized in many departments, including architecture, urban studies, urban planning, and public policy, among others.

Although architecture and urban design schools tend to rely on juried studio collaborations, in which students design new buildings and public space interventions, planning departments promote town-gown collaborations mostly in the form of capstone planning studios. In these studio courses, faculty and students conduct planning studies and make planning recommendations to resolve specific problems in host communities. Often, these capstone studios are requested (and sponsored) by community organizations.¹³ Much rarer are the capstone courses conducted without a well-identified liaison community group. Important in the delivery of planning studios is the need to secure external funding to defray the costs of implementing those urban planning activities.

Central to these engagements are planning charrettes aimed at utilizing design and participatory community-based methods in the resolution of societal problems such as urban blight, neighborhood decline, traffic bottlenecks and high crash areas. Citizen-science is utilized to make scientific principles better understood among individuals who may not have fully encountered the need for those procedures.¹⁴ Citizen-science interventions, conceived as a collaborative design, collection and analysis of data in order to answer a research question and resolve a community problem,¹⁵ henceforth a subset of spatial science, have also been combined with participatory art installations with the intent to help youth and non-formally-educated individuals learn and appreciate scientific endeavors.¹⁶ Underserved low-income populations and citizens in communities of color are likely to benefit greatly from those particular types of interventions.¹⁷

THREE POTENTIAL ARENAS OF DIALOGUE

Environmental justice community

Environmental justice is the fair treatment and involvement of all people regardless of race, ethnicity, income, national origin, or educational level in decisions pertaining to our natural and built environment and the societal dynamics ensuing from those same governance processes. Unfortunately, many minorities and poor communities of color still face a disproportionately higher number of social and environmental issues than socio-economically balanced constituencies in relatively more privileged neighborhoods. Examples of those injustices include daily exposure to air and noise pollution from heavy travelled highways and industrial activity, higher likelihood of living in close proximity to contaminated soil and water sources, higher rates of preventable diseases, higher infant mortality rates, and lower life expectancy.¹⁸

In spite of some recent progress leading to the decontamination of polluted brownfield sites in former industrial areas in North American cities, certain regions of the Northeast and Midwest still possess a high number of brownfields. In certain cases, present situations of environmental racism were created decades ago due to inexpensive land available in places near industrial sites and other Locally Unwanted Land Uses (LULUs).¹⁹

The individuals responsible for said land use decisions may no longer be in the same public office and therefore, it may be difficult to attribute responsibilities to individual decision makers or agencies.²⁰ Those who inherited and are now responsible for managing those complex situations may not have the knowledge or the necessary resources to resolve those environmentally unjust situations. Therefore, incremental decisions may serve only to perpetuate unjust environmental problems without ever eradicating said state of affairs. Effective environmental advocacy is still urgently needed in many

communities throughout the world.²¹ That advocacy has to occur not only with the help of community leaders, elected officials and progressive media outlets, but also with effective and responsible decision making,²² which needs to provide resourceful solutions to those most affected by environmental nuisances. Urban and Regional Planning departments in institutions of higher education have engaged with those situations and have trained students in their resolution.²³

Cultural heritage districts

Traditionally, heritage districts tend to have a high concentration of monuments and other architectonic significant buildings.²⁴ Many heritage districts are also influenced by a considerable number of regulatory and conservation measures. In certain cases, those measures tend not only to protect the integrity of important architectonic elements, but they may also stifle and constrain other built-up structures in the heritage districts, which may result in economic disadvantages for certain property owners. Heritage districts on edge-of-town locations are not as common in north-American cities as their downtown counterparts.

Nonetheless, their unique presence throughout the northeast has resulted from urban growth and suburbanization movements or from developments located in the proximity to economic, cultural and transportation hubs. The urban decline recurrent in several of these districts is a consequence of cycles of abandonment and property devaluation due to aging structures and the shrinking of those neighborhoods due to out-migration to places farther away from the central business district, or even back to more central and vibrant city locations. Another recurrent issue with these heritage districts is their progressive loss of identity and cultural value due to fewer permanent residents and less regular patronage.

Revitalization strategies have ranged from the pedestrianization of main streets, and the conversion of historical buildings, to the construction of downtown shopping centers, and mixed-use complexes. Other

revitalization strategies include the designation of the downtown area as an historic district,²⁵ the establishment of a Main Street Program, a tax increment financing precinct, and strategies aimed at centralized retail management. Some heritage districts in non-downtown locations have been improved through upgrades and renovations, the redesign of common public spaces, and via promotional campaigns, while others have declined and their most important built environment is being foreclosed upon, with irreparable losses for host localities.

Landfills and solid waste management

Cities have a wide variety of attractions, functions, and services that enable individuals to satisfy a wide gamut of needs, desires and aspirations. However, cities are heavily dependent on their hinterlands for energy, water, food, and other socioeconomic resources. Cities also generate large amounts of solid waste.²⁶ The capitalist economy, of which the United States is a paradigmatic example, is largely responsible for the increase of such waste. Nonetheless, it is sometimes hard to see what happens to solid waste when we put it out on the curb. Since we pay disproportionately less in garbage collection rates than the solid waste system costs to operate, we often forget the real costs, not to mention the environmental externalities. Thus, municipal solid waste collection services provided by municipalities and other subcontractors have high costs both for collection, transport, sorting and, in some cases, incineration and landfill disposal. The ecological footprint is apparently less felt at the individual household level than at the commercial level, where small errors in large quantities can translate into substantial losses.

Implications based on the 3R's approach include: (i) Reduction, recycling, and reuse; (ii) sustainable consumption; (iii) circular economy; and (iv) the implementation of a zero-waste city strategy.²⁷ Examples of sustainable urbanism goals are threefold: (i) the reduction in land wasteful patterns through the

requalification and reutilization of LULUs in Not in My Back Yard (NIMBY) situations, (ii) the use of environmental impact studies to achieve more socially fair and consensual development patterns, and (iii) the resolution of serious problems of spatial, social, and environmental discrimination.²⁸ Modern life requires some level of consumption and all living beings need energy flows via metabolic processes. However, it is possible to change consumption habits in order to reduce supplies and reuse materials capable of impacting our ecological footprint. It has been pointed out that changes in behavior are needed to achieve more sustainable consumption patterns.²⁹ Environmental education and the use of the media to promote healthier environmental behaviors through green minute civic programs and service announcements also seem to be relatively important.

DISCUSSION

Collaborations in urban planning and design professions are central to progressive educational models and professional practice. The political economy of recipient university-host communities tends to shape the conception and development of town-gown engagements, and subsequent governance arrangements. The three potential arenas of dialogue explained above serve to exemplify the analytical framework for creative and sustainable urban planning illustrated in Figure 1. This section recognizes a certain dissatisfaction with traditional educational models and explores the applicability of alternative student-centered learning paradigms based on citizen-science, community engagement and creative arts and culture interventions to resolve structural problems in cities (see Table 1).

>insert Table 1 around here<

Phenomenology of place

The phenomenology of place – phenomenology being the interpretative study of human experiences – has been utilized by Relph and Seamon, among others.³⁰ A person’s mental maps of an urban area can provide the first conceptual understandings of a city’s structure. Relph’s dialectic opposites of place/non-place and insidedness/out-sidedness have been utilized extensively to reflect on the perceived and sensorial characteristics of places.³¹

Augé made the case that place focuses on static (or permanent) and nonplace focuses on temporary characteristics, and that non-place is sometimes equated with a negative quality, “an absence of place from itself, caused by the name it had been given” for instance.³² Furthermore, the same author has argued that “as anthropological places create the organic social, so non-places create solitary contractuality.”³³ Other constructs involving place and non-place interpretations of the city include, for instance, the distinction between authentic and inauthentic places, differentiation between rootedness and mobility, and place as a static bounded site over place as a dynamic globally connected process.

Universities’ missions have changed radically from their ivory tower conceptualizations completely disconnected from reality to being seen as integral components of cities and metropolitan regions.³⁴ Universities not only create new knowledge but they also have the responsibility to make it useful to society. This can be done through the creation of patents, jobs and impacts on the local, regional and state economies.³⁵ Moreover, universities are also part of growth coalitions, and in the United States, some of their missions are codified in land grant charters, requiring some universities to transfer knowledge to the community through community empowerment and placemaking activities.³⁶

Furthermore, universities also need to minimize their disruptions on adjacent neighborhoods by establishing town-gown programs and good working relationships with community development organizations and the business community. Dewar and Isaac have written about the traditional culture-

clash between universities and community organizations in terms of the style of work, social justice understandings, and power relations.³⁷ Nonetheless, there have been recent attempts at fostering “community driven practice in the making of the public realm, based on converging theories of social movements and planning.”³⁸

Public engagement

Many universities in the United States have public engagement offices dedicated to facilitating collaborations with communities. The outcomes of such scholarship are known as public scholarship,³⁹ and their effectiveness is starting to be used in faculty retention, tenure and promotion decisions. Planning capstone studios are critical to the education of future urban and regional planners. This includes learning by doing approaches and direct study of urban transformations. Groups of students and instructors utilize studios to tackle real problems in the community and to expose students to the type of work that they are likely to perform once they complete their programs.

Traditionally utilized in the design disciplines, studios were adopted by planning programs as part of their core requirements. Practicum courses have evolved a great deal and now technology even facilitates the possibility of having virtual and interdisciplinary studios with teams in various locations and of different backgrounds.⁴⁰ Another modality is the cross-cultural studio with teams of international students and instructors working in various settings domestically or abroad.

The American Planning Association also utilizes professional clinics where teams of planners volunteer in pro-bono work to improve low-income communities. Studios serve to synthesize knowledge and to sharpen critical skills through various literacies. However, there is a void in the literature on the challenges and dilemmas encountered by those who conduct such activities. Such gap needs to be addressed on a systematic basis, so that planning programs can help to overcome deep societal problems

such as intolerance, racism, and the threatening of fundamental freedoms. Learner-centered education approaches (LCE) allow students to identify and frame urban problems, to acquire and analyze data, to propose solutions and deliver the planning recommendations to clients with minimum guidance from their instructors. In such cases, an instructor's role is one of coordination and supervision. LCE belongs to the same educational paradigms as problem-based learning (PBL), and team-based learning (TBL).

Quite often, when students enter college and are exposed to new subjects, new methodologies and innovative ways of resolving societal problems they tend to express some bewilderment for only then having realized a set of circumstances that they had never thought about before. One of the premises of public engagement opportunities is to speed up some of those disquiet rationalizations not only by exposing students to traditional ways of resolving complex urban problems, but also by increasing their awareness and understanding of scientific, artistic and creative ways to resolve much broader societal complexities.⁴¹ It is believed that this resolution ought to occur before issues escalate to great proportions, become awfully complex, or nearly impossible as well as quite costly to resolve.⁴² Individuals in different levels of their educational careers have distinct skills and awareness levels that either preclude them from acting differently or do not motivate them to fully take ownership of situations while devising appropriate courses of action.

Innovative curricular and educational developments

Citizen-science, design thinking, and creative and sustainable urban planning are important methodological paradigms.⁴³ Therefore, educational developments aimed at strengthening those paradigms ought to include activities for high school, undergraduate, graduate students and a post-doctoral researcher. In addition, it is important to realize that the subjects we care deeply about, often were not taught to us directly when we were students. In most cases, our rationalizations only emerged during an

experiential path of investigation and discovery.⁴⁴ Frequently, it took leadership, an active pursuit of the various dimensions that constitute a societal problem, and our own troubled efforts to understand hidden realities in order to make sense of problems as well as to explain them to others in convincing ways. Such an educational development can help strengthen citizen-science and design thinking in both high school and university education, while enabling students, teachers and researchers with the capacity to learn and deploy a combination of S.T.E.M. and S.T.E.A.M. methods aimed at developing life-long learning and thinking skills, literacies and competencies.⁴⁵

A town-gown citizen-science curricular development may also entail new or updated undergraduate courses using innovative educational approaches; undergraduate learning experiences including innovative elements; recruiting underrepresented students, high school student fairs, and science summer camps; working with elementary teachers to incorporate elements of the research into their curriculum could be encouraged to discuss air quality, accessibility, automobile dependence, sustainable non-motorized transportation planning and traffic safety programs (safe routes to school, wearing a helmet when riding a bicycle, rules of the road for bicyclists, traffic calming, and crash elimination countermeasures), and sustainable consumption, composting and recycling opportunities. Additional programs of study may also include innovative initiatives such as, climate change, community gardens, food security, adopt a street / adopt a park community development programs, and matching fund programs aimed at the implementation of community development initiatives.⁴⁶

Furthermore, this approach enables local constituencies to become more engaged in the resolution of common problems by conceptualizing citizen-science and placemaking practices, celebrating community diversity and cultural heritage, and establishing creative engagements aimed at the resolution of complex environmental problems, such as environmental racism, and high consumption and energy use.⁴⁷ Such an innovative curricular development will contribute to broad university goals by creating more and diverse

learning and research opportunities for these units' constituencies, its students and faculty members. Moreover, it can also present opportunities for interdisciplinary teaching and future research projects for faculty and students. Finally, the collaborations with high schoolers at University summer camps will also create higher awareness of learner-centered education, environmental justice communities, social sustainability, and sustainable consumption practices.

CONCLUSION

Creative and sustainable urban planning is difficult to implement. This article argues that town-gown citizen-science provides an innovative way to help resolve complex health, social, environmental, and consumption problems. We reviewed and discussed some of the most pertinent literature on citizen-science, public engagement, and other community based participatory methods. The town-gown applied service-learning activities identified in this article focus on multifaceted and conflictual situations, such as environmental justice communities, declining ethnic neighborhoods, and land use and socio-economic transformations in areas surrounding landfills.

We highlight the growing tendency to simply create new knowledge for the sake of making informed decisions, without realizing the urgency of resolving dangerous public health and poor quality of life situations. Overcoming community governance difficulties between the need for more scientific data to support business as usual decisions and taking informed and participatory action to resolve urgent real societal problems through the use of town-gown, citizen-science and creative and sustainable urban planning ought to receive greater visibility and attention in funding allocations and political scrutiny.

The research's analytical mechanism proposed in this article is centered on the triad of Placeless, Place and Non-Place *genius loci* of socio-spatial town-gown interventions. Public engagement ought to tackle the resolution of societal problems before issues escalate to great proportions, become terribly complex,

or nearly impossible as well as quite costly to resolve. The curricular and pedagogical innovations entail the strengthening of citizen-science and design thinking in both high school and university education.

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Table 1 Town-gown components and foci

	Placeless	Place	Non-Place
Traditional approach:			
Science	Environmental health (public housing siting, air and noise pollution, remediation measures)	Conservation plan (building and utility systems integrity, protection levels, neighborhood planning)	Solid waste management (landfill operation, recycling and energy generation systems)
Alternative approaches:			
Artistic	Series of design and participatory design charrettes with residents and students (production of a documentary)	Historic preservation and conservation plan (building and yard repairs, materials, colors and pavements (production of a performance)	Ecological sensitivity analysis of the landfill site and public education campaign ('no bags, more savings' theme, production of an art exhibit with recyclable materials)
Educational	Design charrettes, mid- and end-of-semester presentations to the community and dissemination of findings by joint teams of high-school and undergraduate students	Habitat for Humanity-type of consultation and hands-on intervention, dissemination of findings by joint teams of high-school and undergraduate students	Identification of landfill reduction targets and increasing composting and recycling strategies, dissemination of findings by joint teams of high-school and undergraduate students