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WEEK 6 – Citizen Design Science

Design Science

Design science was introduced in 1963 by R. Buckminster Fuller who defined it as a systematic form of designing. The concept of design science was taken up in S. A. Gregory's 1966 book of the 1965 Design Methods Conference where he drew the distinction between scientific method and design method. Gregory was clear in his view that design was not a science and that design science referred to the scientific study of design. Herbert Simon in his 1968 Karl Taylor Compton lectures used and popularized these terms in his argument for the scientific study of the artificial (as opposed to the natural). Over the intervening period the two terms have co-mingled to the point where design science has come to have both meanings, with the meaning of scientific study of design now predominating.

Wikipedia. *Design Science* [online] < https://en.wikipedia.org/wiki/Design_science>
[accessed at 01 Sep. 16]

Citizen Science

Citizen science (CS) (also known as crowd science, crowd-sourced science, civic science, volunteer monitoring or networked science) is scientific research conducted, in whole or in part, by amateur or nonprofessional scientists. Citizen science is sometimes described as "public participation in scientific research", participatory monitoring and participatory action research.

Wikipedia. *Citizen Science* [online] < https://en.wikipedia.org/wiki/Citizen_science>
[accessed at 01 Sep. 16]

Urban Design

Urban design is the process of designing and shaping cities, towns and villages. In contrast to architecture, which focuses on the design of individual buildings, urban design deals with the larger scale of groups of buildings, streets and public spaces, whole neighbourhoods and districts, and entire cities, with the goal of making urban areas functional, attractive, and sustainable.

Urban design is an inter-disciplinary subject that utilizes elements of many built environment professions, including landscape architecture, urban planning, architecture, civil and municipal engineering. It is common for professionals in all these disciplines to practice in urban design. In more recent times different sub-strands of urban design have emerged such as strategic urban design, landscape urbanism, water-sensitive urban design, and sustainable urbanism.

Urban design demands a good understanding of a wide range of subjects from physical geography, through to social science, and an appreciation for disciplines, such as real estate development, urban economics, political economy and social theory.

Urban design is about making connections between people and places, movement and urban form, nature and the built fabric. Urban design draws together the many strands of place-making, environmental stewardship, social equity and economic viability into the creation of places with distinct beauty and identity. Urban design draws these and other strands together creating a vision for an area and then deploying the resources and skills needed to bring the vision to life.

Urban design theory deals primarily with the design and management of public space (i.e. the 'public environment', 'public realm' or 'public domain'), and the way public places are experienced and used. Public space includes the totality of spaces used freely on a day-to-day basis by the general public, such as streets, plazas, parks and public infrastructure. Some aspects of privately owned spaces, such as building facades or domestic gardens, also contribute to public space and are therefore also considered by urban design theory.

Wikipedia. *Urban Design* [online] < https://en.wikipedia.org/wiki/Urban_design>
[accessed at 01 Sep. 16]

Citizen Design Science

Citizen Design Science describes the combination of citizen science and of design science. Citizen science is an advancing movement throughout the world in which citizens of all ages and backgrounds support scientists by either collecting or analyzing data and observations (e.g. citizens collect data on birds and their habitat). The internet is crucial: millions of individual observations turn into a flow of data and information beneficial for science. We want to achieve something similar for design: millions of individual observations turning into a rich flow of data and information to improve the planning and functioning of a city. In Citizen Designed Science, citizens are involved in the development of the proposals from the very beginning. As a matter of fact, urban development will often be most likely initiated and formed by citizens in the future. Through the mechanism of crowdsourcing and design crowdsourcing, citizens will be able to provide their view of the city, and they will volunteer data on their daily routines. They will provide more helpful or more generalizable insight into the dynamics of the city than a survey based data collection could ever provide. Citizen design science will thus offer the possibility to the inhabitants and stakeholders of a future city to take actively part in the design process. In practical terms, with Citizen Design Science, citizens combine their individual design capacity for objects, processes or systems with their observations and data collections (G. Schmitt, 2015).