Chapter 16

Infographics for Information Conveyance:
A Light History From Early Days (Stasis) to Today (Motion, Interactive, Immersive)

Shalin Hai-Jew

https://orcid.org/0000-0002-8863-0175

Kansas State University, USA

ABSTRACT

To help the world emerge from the COVID-19 pandemic, an older tool has come back to the fore: analog and digital informational graphics. Infographics (information + graphics) have been used for many decades to convey data, knowledge, information, and learning. In the latest phase, there are now motion (animated) and interactive and immersive infographics that offer richer ways. This work explores the basic mechanisms of information conveyance in infographics from early days through the contemporaneous moment with the richer. Finally, a summary graphic captures the general sequence in the design, development, and deployment of modern motion, interactive, and/or immersive infographics.

INTRODUCTION

For higher education recovery from long-term challenges, such as the multiple years of the SARS-CoV-2 / COVID-19 pandemic, it helps to maximize opportunities for learning. This means learning materials that are used in real time and those that are digital leave-behinds for formal, informal, and nonformal learning. [Formal learning refers to accredited learning managed by formal agencies with oversight; informal learning refers to learning that is a byproduct of non-learning activities, and nonformal learning refers to course-based learning that is not credit-based.] Infographics have long been used to enhance learning. While they are not considered glamorous, theirs is an approach that would benefit learners as they strive to address learning loss from 2020 – 2023 as the world emerges from the pandemic.

An informational graphic or "infographic" [an amalgam of information + graphic] refers to static "visual representations of information" (Andry et al., 2021, p. 1; Bigelow et al., 2014, p. 17) or data, concepts, and knowledge (Nhan & Yen, 2021b, p. 85). Said eloquently: an infographic is a "visual translation of data" (Bradshaw & Porter, 2017, p. 57). An infographic contains "verbal, pictorial and schematic components" (de Castro Andrade & Spinillo, 2018, p. 187). Information graphics "combine elements of data visualization with design" (Harrison, Reinecke, & Chang, 2015, p. 1187). Infographics offer overviews of a topic (Szoltysik, 2016). They are "a form of knowledge assemblage" (Featherstone, 2014, p. 147). Through "a fusion of data and graphical elements," infographics tell an information story (Lu, et al., 2020, p. 1). Infographics are often "self-contained pictorials" (Balkac & Ergun, 2018, p. 2514), which means that they can exist in a stand-alone fashion with full details. [One researcher writes: "An ideal in infographics might be something like a self-interpreting artifact" (Rosenberg, 2015, p. 40).] There are assumed efficiencies of infographics. Infographics offer "a way of delivering the maximum amount of content in the least amount of space while still being precise and clear" to "tell a story, show relationships, and reveal structure" (Dunlap & Lowenthal, 2016, p. 42). Another definition asserts that an infographic is "a highly effective visualization tool, which allows (creators) to present organized and structured information about any event, fact, object or phenomenon in a graphical form" (Tarkhova & Tarkhov, 2020, p. 66). Infographics can serve as "instructional materials" (Yildirim, 2016, p. 109). Digital (and digitized) infographics "rarely fit on one screen, the reader usually has to scroll (and sometimes zoom in) to read them in full" (Veszelszki, 2014, p. 100). At least one definition suggests that infographics are necessarily web-based:

a web-based image that takes a large amount of information in text or numerical form and condenses it into a combination of images and text with a goal of making the information presentable and digestible to an audience (Albers, 2015, p. 2).

Another also focuses on the online versions of infographics. Infographics take on many forms, but are most commonly found as "online posters…and short animated videos (usually less than five minutes)" (Bellato, 2013, p. 1). Developers of infographics pre-filter learning contents and so get "straight to the point" (Bellato, 2013, p. 3).

Another definition reads: "a complex compilation of connected images that convey an idea" (Hsiao et al., 2019, p. 26). The feature of having a core central idea is similar to that of essays with a core idea as an organizing principle.

A "motion infographic" is a 2d (Hai-Jew, Aug. 5 – 7, 2020, Slide 3) or 3d information-carrying visual that contains motion (4d) or animation. The visual may be accompanied by text or voiceover or other multimedia content. Another form of a motion infographic involves "animated maps," first created in 1940 (Peterson, 1995, as cited in Griffin, MacEachren, Hardisty, Steiner, & Li, 2006, p. 740). Animated maps show various phenomena over geographical space. Infographics as "animated videos" may include "music, voiceover, and animation" (Bellato, 2013, p. 1). "Animated infographics" are also known as "data videos" (Doukianou, Daylamani-Zad, & O'Loingsigh, 2021; Amini, Riche, Lee, Leboe-McGowan, & Irani, 2018, p. 1). A "video infographic" has also been described as "a visualization that is achieved with short videos combined with visual images, illustrations and text" (Damyanov & Tsankov, 2018, p. 84). An "interactive infographic" provides mechanisms for users to engage with the data based on their own preferences and at their own pace; they are often able to change various parameters of the data, such as time spans, locales, and other information). Users may run queries against the data in

47 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/infographics-for-information-conveyance/313903

Related Content

Whose Voice is Heard? West Bank News Framing in Israeli Mainstream and Alternative News Websites: Ni'lin 2008 as a Case Study
Keren Sereno (2014). *Transforming Politics and Policy in the Digital Age (pp. 85-115).*
www.irma-international.org/chapter/whose-voice-is-heard-west-bank-news-framing-in-israeli-mainstream-and-alternative-news-websites/108386

Historical Context: How the Past Policies Shape Present Social Policy
 (2020). *Reshaping Social Policy to Combat Poverty and Inequality (pp. 1-12).*
www.irma-international.org/chapter/historical-context/257880

Can Whistleblowing Be a Solution to Unethical Behaviors in the Tourism Industry?
Gulsevim Yumuk Gunayand Basak Ozyurt (2024). *Research Anthology on Business Law, Policy, and Social Responsibility (pp. 162-183).*
www.irma-international.org/chapter/can-whistleblowing-be-a-solution-to-unethical-behaviors-in-the-tourism-industry/335701

Teaching the History of Residential Schools Through Graphic Novels: A Critical Multiliteracies Approach
Amanda Marie Shufflebarger, Jay Barbre, Justin Carroland Joshua B. Tolbert (2024). *Challenging Bias and Promoting Transformative Education in Public Schooling Through Critical Literacy (pp. 96-124).*
www.irma-international.org/chapter/teaching-the-history-of-residential-schools-through-graphic-novels/346868

Definition of a Pervasive Architecture for a Central Monitoring of Homecare Systems
Giovani Rubert Librelotto, Leandro Oliveira Freitas, Ederson Bastiani, Cicero Ribeiroand Samuel Vizzotto (2019). *Healthcare Policy and Reform: Concepts, Methodologies, Tools, and Applications (pp. 225-237).*
www.irma-international.org/chapter/definition-of-a-pervasive-architecture-for-a-central-monitoring-of-homecare-systems/209129