

The Power of Visuals: Conceptual Maps, Graphic Novels & Illustrations to Enhance Teaching & Learning

John Jay College of Criminal Justice
Spring Faculty Development Day
January 25, 2018

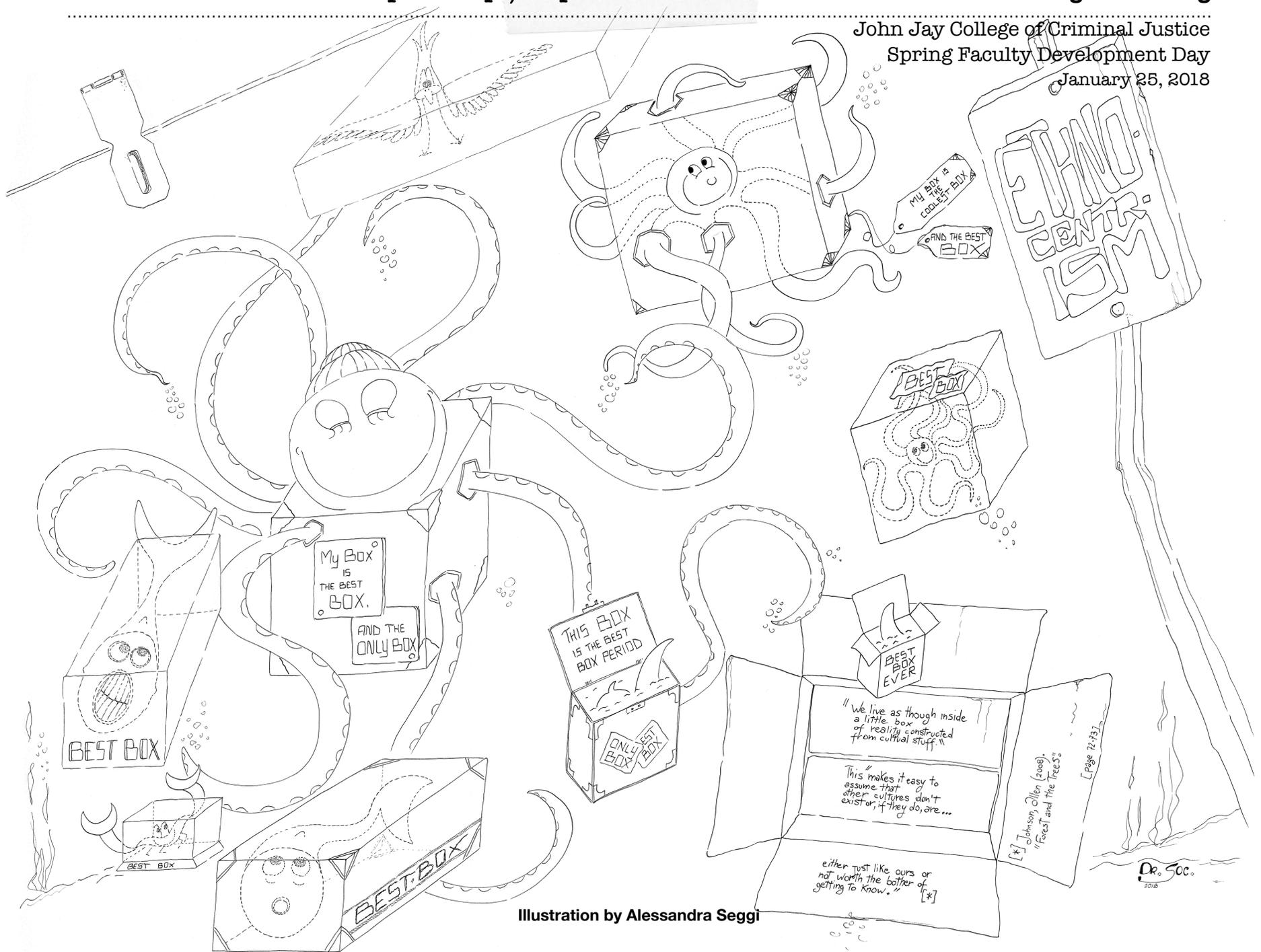


Illustration by Alessandra Seggi

The Power of Visuals: Conceptual Maps, Graphic Novels & Illustrations to Enhance Teaching & Learning

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The Power of Visuals: Conceptual Maps, Graphic Novels & Illustrations to Enhance Teaching & Learning

Conceptual mapping can be used in a multitude of ways to enhance teaching and learning—from brainstorming to summarizing; from analyzing to evaluating; from note taking to problem solving. After a brief review of the literature on mind mapping, the presenter will offer examples of its many uses in a classroom setting. The presenter will also discuss the use of graphic novels in a classroom setting and share original illustrations of sociological concepts, to spice up research methods courses and introductory sociology courses, respectively. The audience will leave the session with ideas about how to make teaching and learning a more creative experience across disciplines, and also with a bibliography and list of useful links.

==> Conceptual Maps - Concept

Mind maps, concept maps or conceptual maps are visual, concise representations of information (Plotnick, 1997).

Conceptual Maps - Use

By no means are mind maps appropriate for everything; I primarily use mind maps to succinctly provide my students with a synoptic view of a given topic. Traditionally my students and I work on a certain theme for some time (through in-class activities and discussions), sometimes with the aid of the infamous PowerPoint presentations; in order to wrap up the theme and all its ramifications I offer the students mind maps of various kinds. They can be embedded in the very PowerPoint presentations they are already familiar with for ease of use or I can hand draw them on the board as we discuss themes. Alternatively I distribute it in class as a handout so that students can add their own notes to it as we progress in our discussion. Mind maps can also be used by both instructors and students to either introduce a new concept, outline a new subject, take notes during class or plan a paper.

Conceptual Maps - Creation

One can create mind maps by hand on a sheet of paper. It's that simple! There is also a wide variety of computer programs available on the market; some of them are free, while others can be purchased for as little as \$20.00 or as much as \$300.00. MindNode and iMindMap are just two examples of software programs, ranging from the fairly simple to the fairly sophisticated. The infamous PowerPoint presentation program also allows you to create different kinds of mind maps (if you really want to use PowerPoint!).

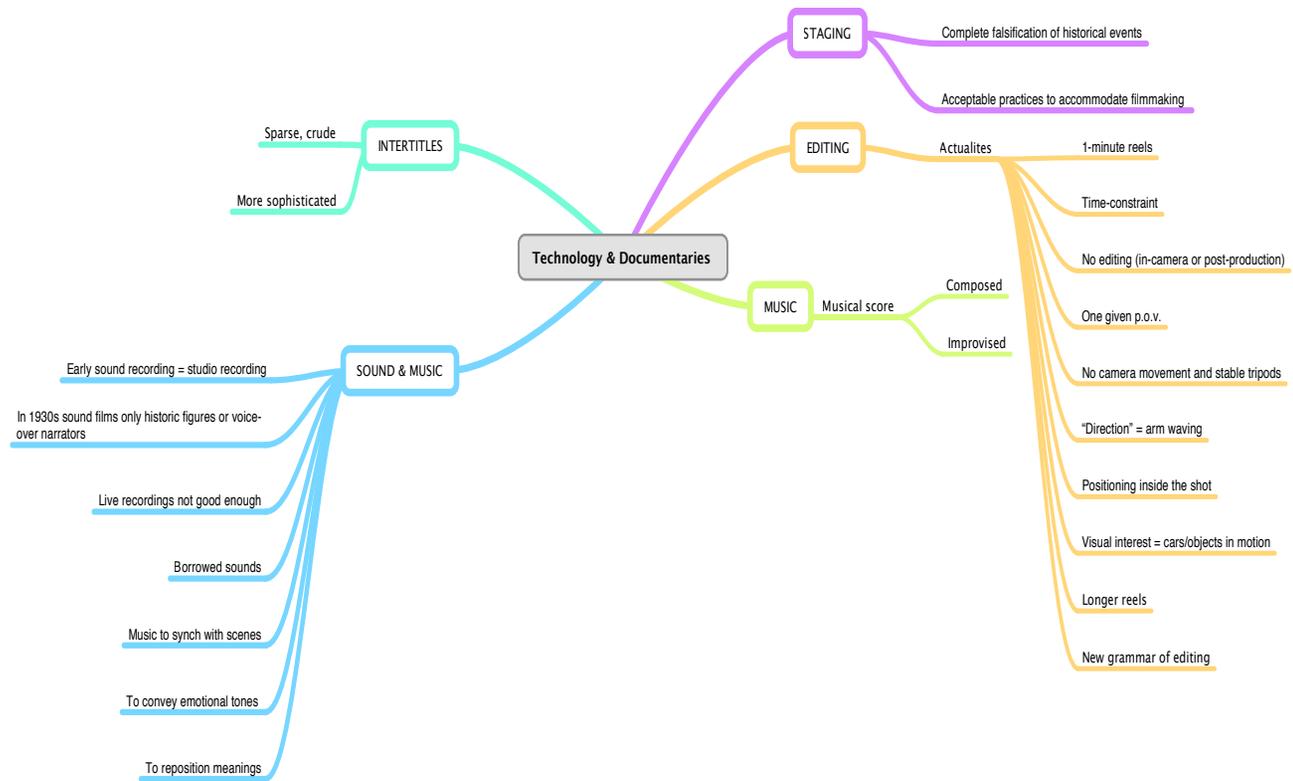
Conceptual Maps - My Examples!

What follows is a list of mind maps of various kinds I have created for my classes. I hope you will find them helpful and inspiring.

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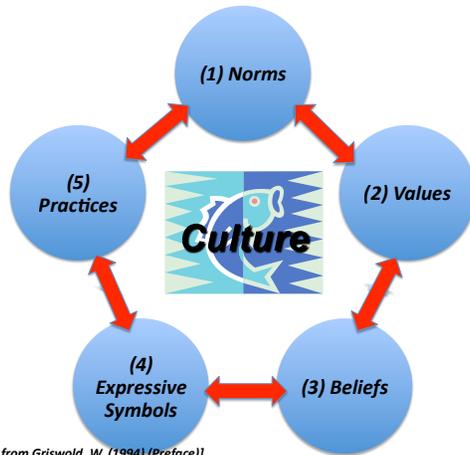
Conceptual Map

Example # 1: Understanding the repercussions of technological developments on the (changing) notion of documentary filmmaking (concepts from Deirdre Boyle's Fall 2000 graduate class Documentary: Its Art, Its History at The New School, New York) - Used in a variety of courses at the intersection of Media and the Social Sciences

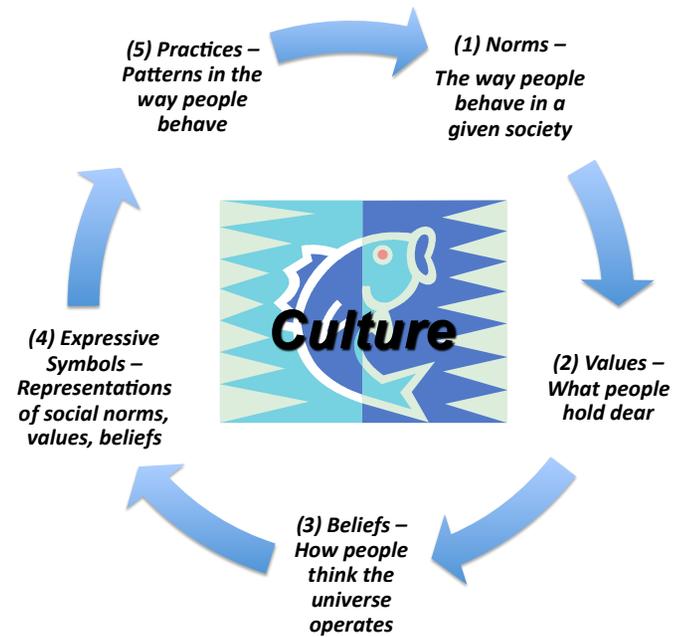


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Conceptual Map Example # 2: Visualizing culture and its constitutive elements (as per treatment in Griswold's *Culture and Societies in a Changing World* (1994))



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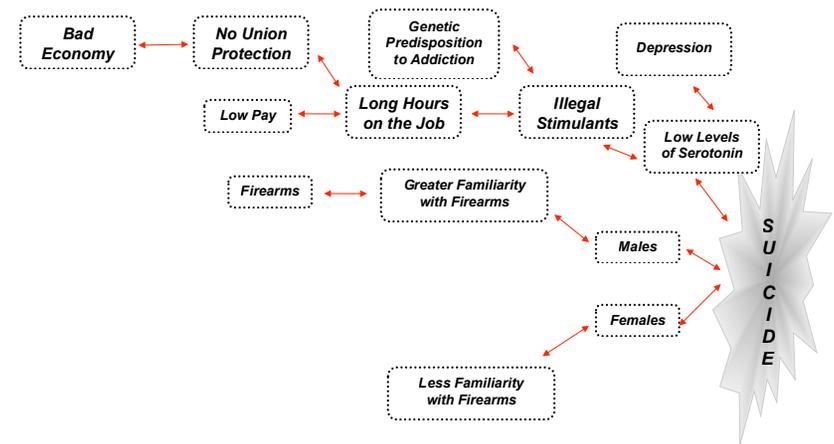
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Conceptual Map Example # 3: Understanding the complexity of suicide (the text on the left is the basis for the mind map on the right). Quoted text is from Muntaner 1998, as cited in Eaton's *The Sociology of Mental Disorders* (2001) , p.47.

"A truck driver commits suicide. What is the cause of the suicide? Is it because, as a male instead of a female, he had greater familiarity with firearms, typically the more "successful" method of suicide than ingestion of drugs? Is it because his levels of serotonin were severely depleted, inducing a depressed mood? Were the levels of serotonin depleted as the result of taking illegal stimulants? Did he take the stimulants because he was genetically vulnerable to addiction or, rather, because he needed to stay awake on a 16-hour run? Would the run have been 16 hours long if he had been a union trucker? Would he have been a union trucker if the political system were more supportive of unions? Would he have been making the 16-hour run if his income were sufficient to support his family? Would his income have been sufficient if the economy had been strong?" (Muntaner, 1988, as cited in Eaton, p.47).

2



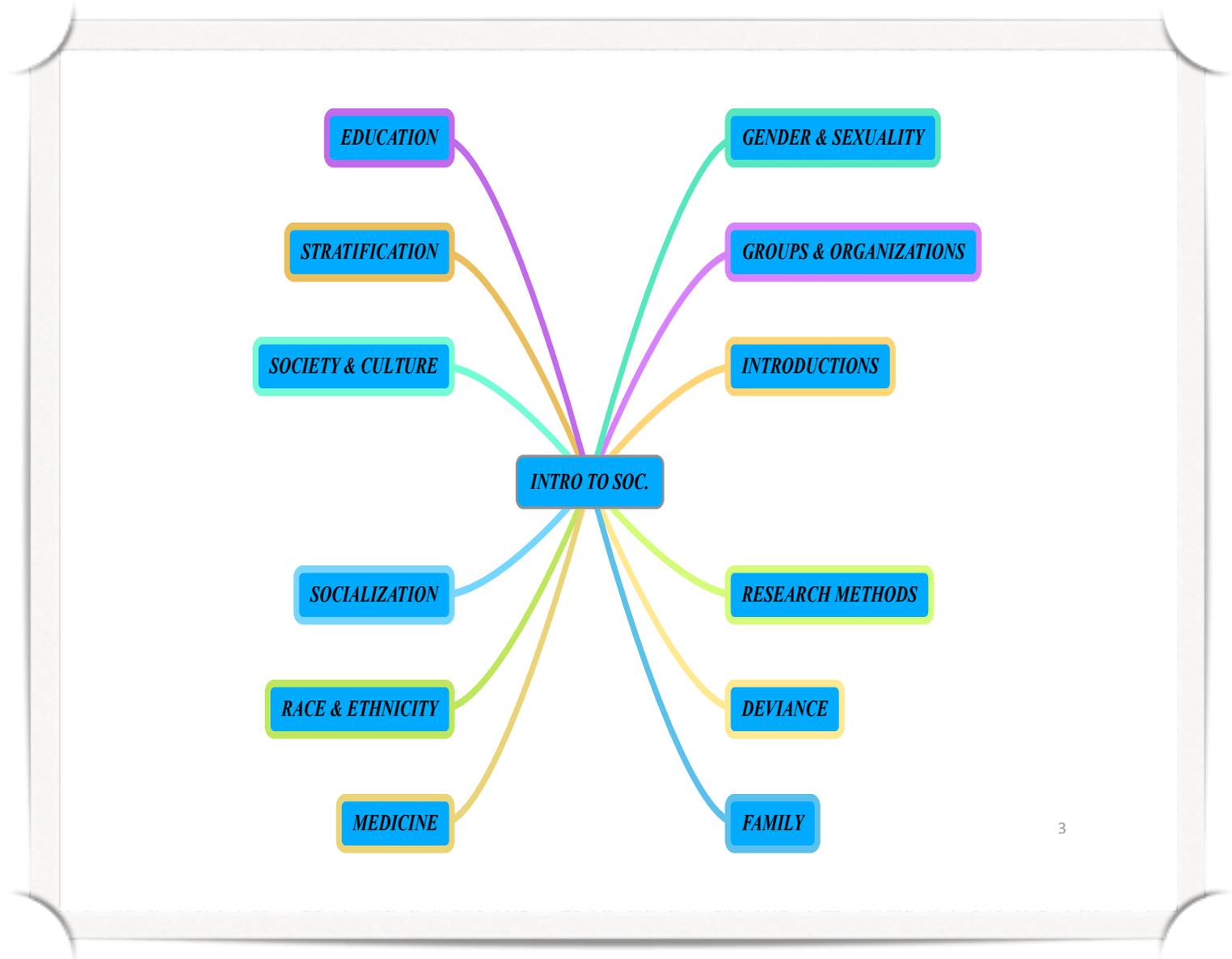
Elaborated from Muntaner, 1988, as cited in Eaton, 2001, p.47.

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Conceptual Map

Example # 4: Visualizing the key components to an Introduction to Sociology course

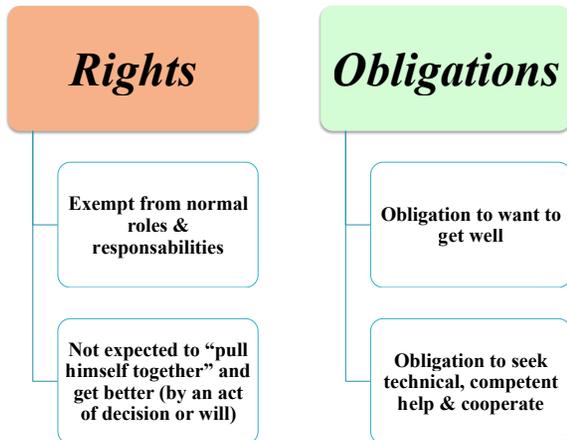


Conceptual Map

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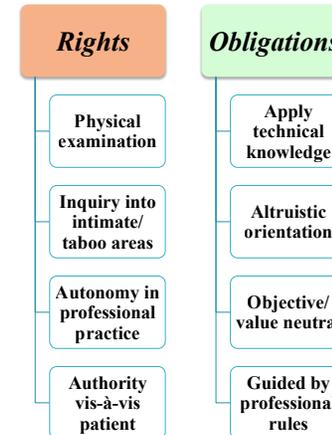
Example # 5: Identifying rights and obligations of the “sick person” and “medical practitioner” as per Parsons’ 1951 seminal text *The Social System*, in a Sociology of Health & Illness course

“Sick Person”



6

Medical Practitioner



5

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Conceptual Maps - Bibliography (Partial, of course)

The sources below can give you a sense of how extensive the use of mind maps has been across disciplines.

Beirute, L. et al. (2004). Los Mapas Conceptuales Poderosa en la Resolución alternativa de Conflictos. Concept Maps: Theory, Methodology, Technology Proceedings of the First Int. Conference on Concept Mapping. Pamplona, Spain 2004.

Briggs, G. et al. (2004). Concept Maps Applied to Mars Exploration Public Outreach. Concept Maps: Theory, Methodology, Technology Proceedings of the First Int. Conference on Concept Mapping. Pamplona, Spain 2004 .

Buzan, T & C. Griffiths (2012) Modern Mind Mapping for Smarter Thinking. Proactive Press.

Cañas, A.J., Novak, J.D. & González, F.M. (Eds.), Concept Maps: Theory, Methodology, Technology, Proceedings of the First International Conference on Concept Mapping, Pamplona, Spain (September 14-17, 2004), Editorial Universidad Pública de Navarra.

Davinson, Cathy & D. Golberg (2010). The Future of Thinking. Learning Institutions in the Digital Age. MIT Press.

Moon, B.M., Hoffman, R.R., Novak, J.D. & Cañas, J.J. (2011). Applied Concept mapping: Capturing, analyzing, and organizing knowledge. New York: CRC Press.

Novak, J.D. (2010). Learning, Creating, and Using Knowledge: Concept Mapas as Facilitative Tools in Schools and Corporations (2nd Ed.) NY: Routledge.

Novak, J.D. & Cañas, A.J. (2006). Theoretical Origins of Concept Maps, How to Construct Them and Uses in Education. Reflecting Education, Vol. 3(1).

Novak, J.D. & Gowin, D.B. (1984). Learning How to Learn. Cambridge and NY: Cambridge University Press.

Plotnick, E. (1997). Concept Mapping: A graphical System for Understanding the Relationship between Concepts. ERIC Clearinghouse on Information and Technology. Retrieved from <http://www.ericdigests.org/1998-1/concept.htm> on January 15, 2010.

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==> Use the space below to create mind maps for your own courses!

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==> PowerPoint - How not to use it!

There are a variety of hilarious and compelling YouTube videos by Don McMillan, an engineer turned stand-up comedian (!). You can find them on YouTube or on his website (called Technically Funny) by searching for “life after death by PowerPoint.” His “PowerPoint Proposal” video is also extremely relevant.

PowerPoint & Visual Aids - Bibliography (Partial)

In a previous life I taught and did research on foreign languages. PowerPoint was among the technologies I explored to spice up my classes (I used PowerPoint in a decidedly creative, non linear way, by the way :) The bibliography below somewhat reflects that research, while still being relevant for this presentation of course.

Ahmed, C. (1998). PowerPoint versus traditional overheads. Which is more effective for learning? Paper presented at a Conference of the South Dakota Associations for Health, Physical Education and Recreation (Sioux Falls, SD, November 1998).

Austin-Wells, V., Zimmerman, T., and McDougall G. (2003). An optimal delivery format for presentations targeting older adults. *Educational Gerontology*, (June-July) v. 29, n. 6, p. 493-501.

Fisher, D. (2003). Using PowerPoint for ESL teaching. Retrieved 02/27/2006 from <http://iteslj.org/Techniques/Fisher-PowerPoint.html>.

Gardner, H. (1993). *Multiple intelligences: the theory in practice*. New York: Basic Books.

Holzl, J. (1997). Twelve steps for effective PowerPoint presentations for the technologically challenged. *Medical Teacher*, v. 19, n.3.

Klecker, B., Hunt, S., Hunt, D., & Lackner, K. (2003). Evaluating student teachers' technology use with group support systems and questionnaire. Paper presented at the annual meeting of the Mid-South Educational Research Association (Biloxi, MS, November 5-7, 2003).

Larsen-Freeman, D. (2000). *Techniques and principles in language teaching*. Oxford: Oxford University Press.

Littlewood, W. (1981). *Communicative Language Teaching: an introduction*. Cambridge; New York: Cambridge University Press.

National Center for ESL Literacy Education (2002). Uses of technology in adult ESL education. Retrieved 02/16/2006 from <http://www.cal.org/nclle/factsheets/tech.htm>.

Pedras, M. (1996). Using technology to enhance teacher preparation. Paper presented at the annual meeting of the Northwest Association of Teacher Educators (Coer d'Alene, ID, April 17-19, 1996).

Pence, H. (1997). PowerPoint and cooperative learning: An ideal instructional combination. Retrieved 02/27/2006 from http://technologysource.org/article/powerpoint_and_cooperative_learning/

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Penfield, J. (1987). *A catalyst for communicative language learning*. Reading, Mass.: Addison-Wesley.

Pillai, S. and Anderson, J. (2005). *Community Languages - Resources - Developing your own resources with PowerPoint*. Retrieved 02/27/2006 from http://www.becta.org.uk/teachers/teachers.cfm?section=1_3_2&id=797.

Sherman, T., and B. Kurshan (2005). *Constructing Learning: Using technology to support teaching for understanding*. *Learning and Leading with Technology*, v.32, n.5, p.10-13.

Walker, J. (2003). *Why PowerPoint?* *English Leadership Quarterly*, v.25, n.2.

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==> Graphic Novels - Concept

Graphic novels are book length comics. Thanks to their immediacy comics have addressed complex issues beyond humor, including the Holocaust (Maus by Art Spiegelman), the civil rights movement (March by John Lewis), and personal loss and terrorism (American Widow by Alissa Torres). The history of this medium is fascinating; The genre called wordless novels (like those by Belgian artist Frans Masereel) influenced many graphic novelists of the caliber of Art Spiegelman. Also, there was a time not too long ago in which comic books were censored in this country.

Graphic Novels - Creation

Graphic novels can be created either by hand or with computer programs. Some of these might be quite expensive and require advanced skills in the graphic arts. There is though a variety of free software programs to choose from online; just google “comic strip program free” or “cartoon making tools.” Make Beliefs Comics and Comix I/O are two examples.

Graphic Novels - Uses

Graphic novels can be adopted as required reading in college courses to pique students’ interest and then introduce more traditionally academic readings. They can be used to harness the potential of visual learners and help them succeed in their college career. Given the breadth of topics they address, graphic novels can be used to investigate a variety of serious and complex issues. Needless to say, graphic novels can be investigated as a medium in communications courses too.

Graphic Novels - My Examples!

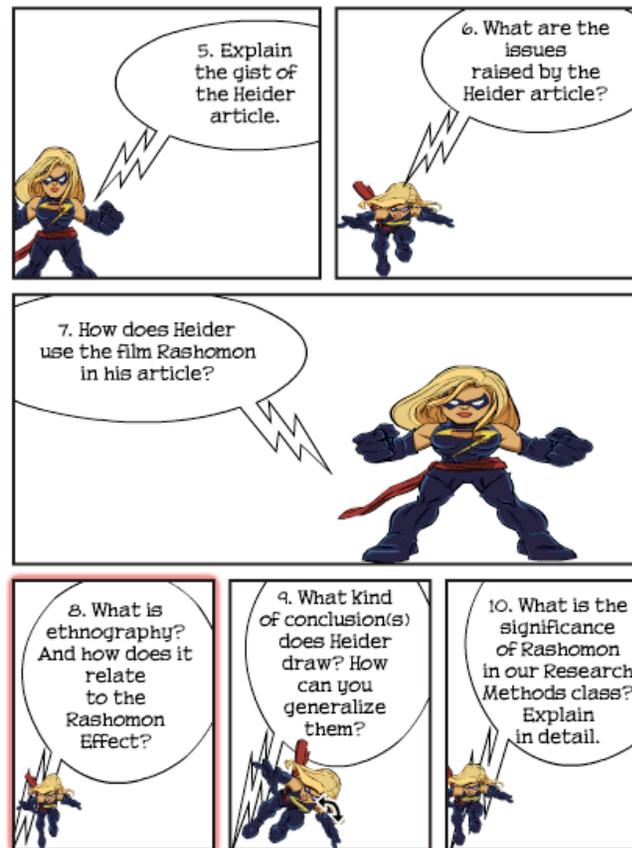
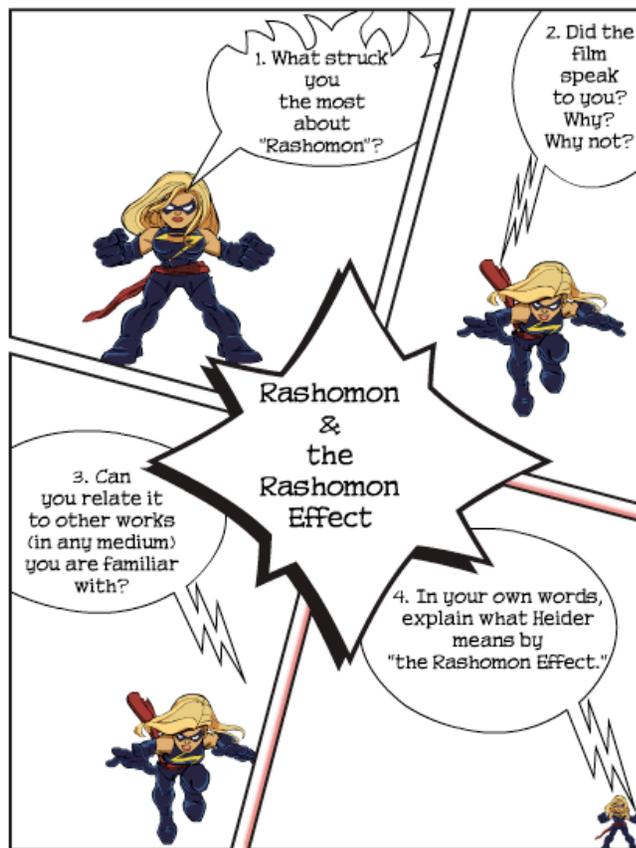
Below you’ll find two examples of my creative use of comics strips for my classes.

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Comic Strip Example #1: Extra credit assignment for a Social Sciences Research Methods course presented as a comic strip

*Social Sciences Research Methods
Extra Credit Assignment #1 - Rashomon*

Read the attached articles. Also go to the library and watch the film "Rashomon (Kurosawa, 1950). In a separate document, answer the following eleven questions based on the film Rashomon and the related articles you read (Each answer at least half a page; typed, single spaced). You are not required to use any other sources. If you do, though, remember to cite them appropriately.



11. Last but not least, can you figure out how to link the significance of Rashomon to the different paradigms Babbie (the textbook's author) talks about in Chapter 2?

— You will upload your document as a Word file on BlackBoard in the designated "Extra-credit" folder under the Assignment tab.

Deadline: —

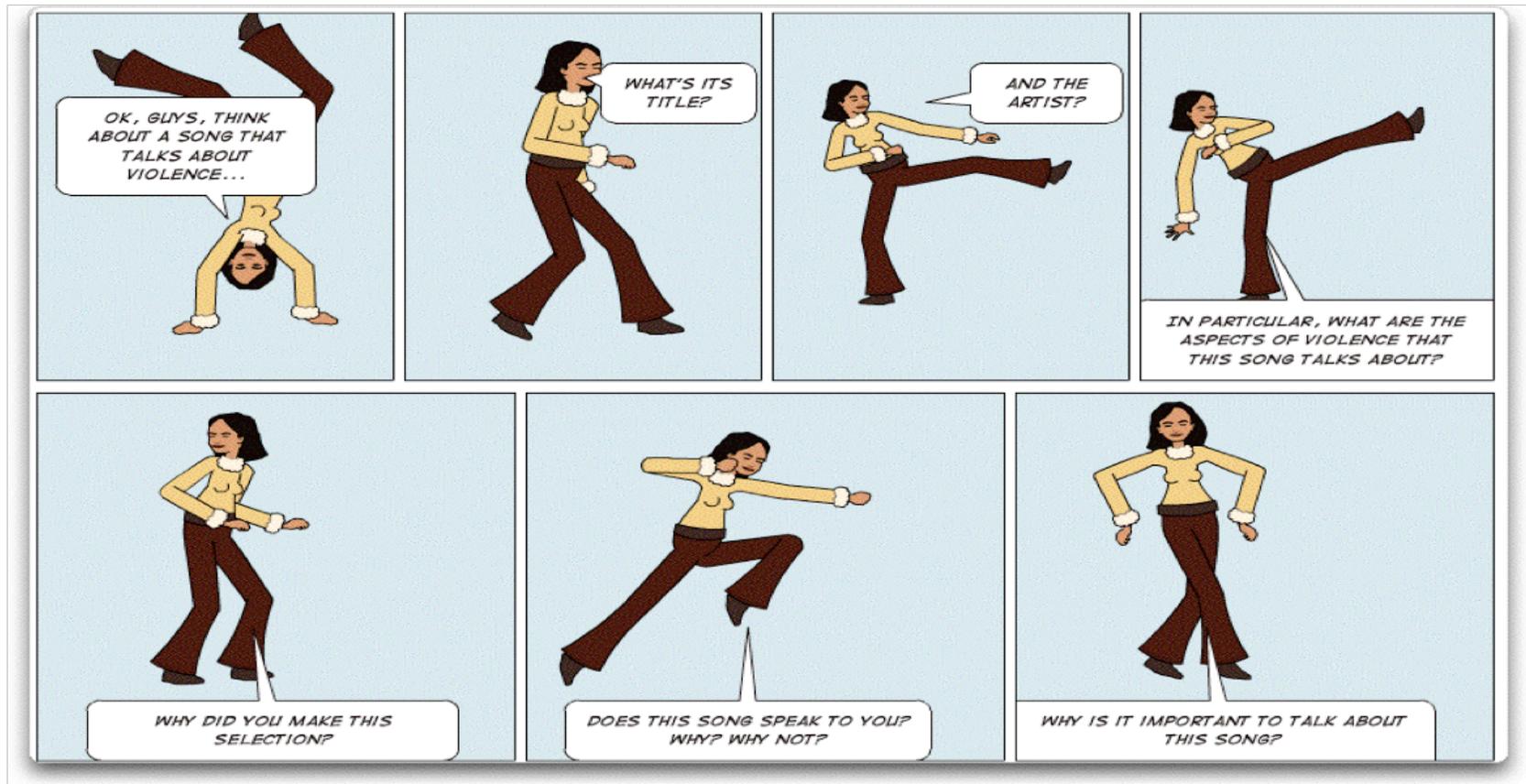
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Comic Strip Example #2: Assignment for a Sociology of Violence course presented as a comic strip

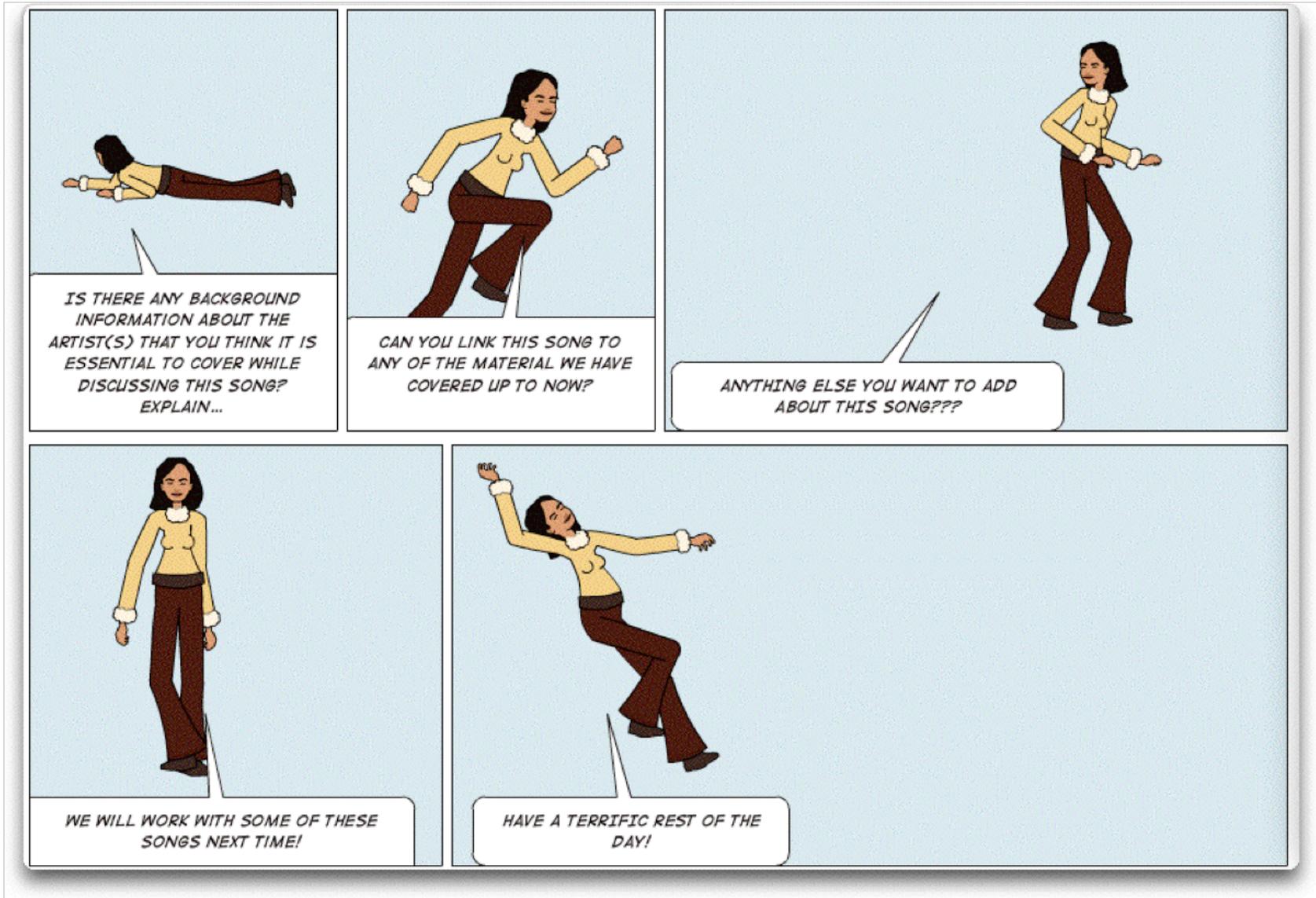
Sociology of Violence

Sociology in Action Sheet - Song(s) about Violence

Answer all the questions in the comic strip here below. Explain everything in your own words. At the same time, though, remember to properly cite any source you may use. Pay particular attention to the links between the song and our Sociology material. Length: One/ two single-spaced pages. Please submit your work as a Word document!



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Graphic Novels - by topic (in alphabetical order)

Academic research

- Shane, *The Lone Ethnographer: A Beginner's Guide to Ethnography* (2007) by Sally Campbell Galman
- *The Good, the Bad, and the Data: Shane the Lone Ethnographer's Basic Guide to Qualitative Data Analysis* (2013) by Sally Campbell Galman

Activism, social movements; Students for a Democratic Society

- *Students for a Democratic Society: A Graphic History* by Harvey Pekar, Gary Dumm et al.

Adolescence; sexuality; coming of age

- *Potential: The High School Comic Chronicles of Ariel Schrag* by Ariel Schrag
- *Diary of a Teenage Girl* (2002) by Phoebe Gloeckner

Civil Rights Movement

- *March* (2013) by John Lewis

Daily life

- *Curses* by Kevin Huzenga

Family; aging; end of life

- *Can't we Talk about Something More Pleasant?* (2016) by Roz Chast

History

- *Hark! A Vagrant* (2011) by Kate Beaton

Holocaust

- *Maus* (1992; 1996) by Art Spiegelman

Illness; mental illness

- *My Depression* (2005) by Elizabeth Swados

Illness; cancer

- *Our Cancer Year* (1994) by Harvey Pekar, Joyce Brabner and Frank Stack

Immigration; New York City

- *Unterzakhan* by Leela Corman

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Multiculturalism

Iran revolution; multiculturalism

- Persepolis (2004) by Marjane Satrapi

Multiculturalism in the US

- Arab in America (2008) by Toufic El Rassi

Multiculturalism; NYC; religion; death; poverty

- A Contract with God and Other Tenement Stories by Will Eisner (1978)

Multiculturalism; travel

- You Can Never Find a Rickshaw When It Monsoons - The World on One Cartoon a Day by Mo Willems

Nellie McLung; suffragist movement

- Hyena in Petticoats: The Story Of Suffragette Nellie McClung (2011) by Willow Dawson

Sexuality; love

- Blue is the Warmest Color (2013) by Julie Maroh

Terrorism; 9-11; personal loss

- American Widow (2008) by Alissa Torres
- In the Shadow of No Tower (2004) by Art Spiegelman
- The 9/11 Report: A Graphic Adaptation (2006) by Sid Jacobson & Ernie Colón
- 9-11: Artists Respond, Volume One
- 9-11: Emergency Relief Paperback (2002) by Harvey Pekar (Author), James Kochalka et al.
- 9-11 - The World's Finest Comic Book Writers & Artists Tell Stories to Remember #2 (2002)
- Heroes (2014) by Neal Adams et Al.
- The Amazing Spider-Man #36 (2001)

War

Bosnian war

- Safe Area Gorazde (2000) by Joe Sacco

Syrian conflict; war trauma

- Freedom Hospital (2017) by Hamid Salami

WWII; the experience of war

- Onward Toward Our Noble Deaths (1973) by Shigeru Mizuki

WWII; the experience of war; family

- You'll Never Know (2009) by C. Tyler

Writing; creativity

- What It Is (2008) by Linda Barry

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Graphic Novels & Media - Bibliography (Partial, of course)

Berger, P.L. (1963). *Invitation to Sociology. A Humanistic Perspective*. Garden City, New York: Doubleday

Burford, B. et al. (2009). *Syncopated: An Anthology of Nonfiction Picto-Essays*. Villard.

Dorfman, A. & Mattelart, A. (1975). *How to Read Donald Duck*. International General.

Johnson, A. (2008). *The Forest and the Trees. Sociology as Life, Practice, and Promise*. Temple University Press.

May, W. F. (1974). *Terrorism as Strategy and Ecstasy*. *Social Research*, 41, 277-98.

McAllister, M. P. (2001). *Comics and Ideology: Second Printing*. Peter Lang.

McLuhan, M. (1964). *Understanding Media: the Extension of Man*. MIT Press.

Mills, C. W. (1959). *The Sociological Imagination*. Oxford University Press.

Spiegelman, A. (2011). *MetaMaus: A Look Inside a Modern Classic, Maus*. Pantheon.

Versaci, R. (2007). *This Book Contains Graphic Language: Comics as Literature*. Bloomsbury Academic.

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==> Illustrations - Concept & Uses

I create illustrations by using graphic novel techniques. I usually draw by hand (pencil first and ink later) on large drawing pads (usually 11 x 14 or 17 x 24); I later have my drawings scanned and I use a computer program (the free Gimp is good!) to color them and present them to my students. They help me introduce a single new concept or a large section of material. They can provide a synoptic view that offers a wealth of information to discuss.

==> Use the space left on this page to sketch your ideas about how to illustrate key concepts in your courses!

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Illustration Example #

2: An illustration comparing society to a zoo... A good (yet perplexing perhaps) ice breaker for Introduction to Sociology courses

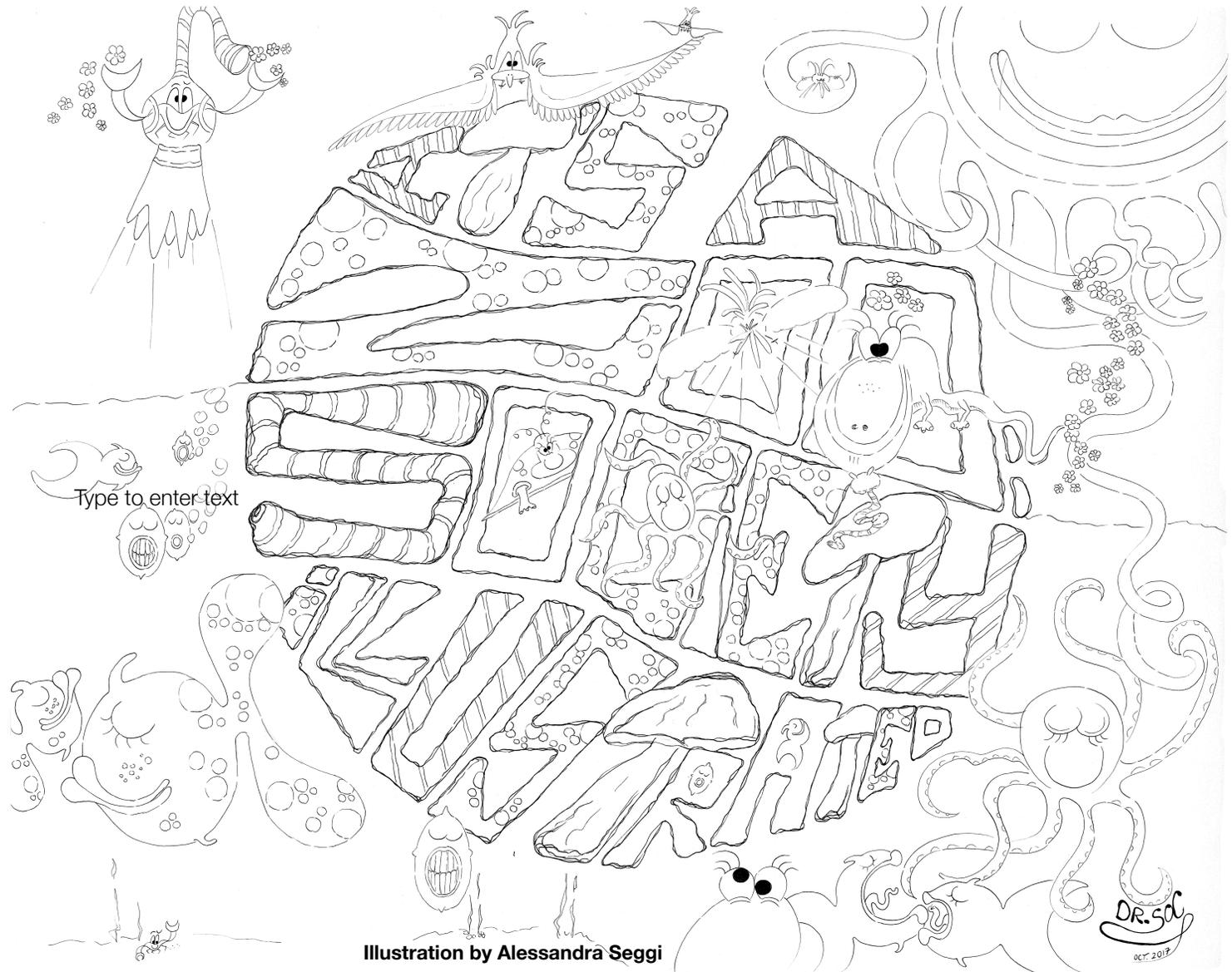


Illustration by Alessandra Seggi

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References

Plotnick, E. (1997). Concept Mapping: A graphical System for Understanding the Relationship between Concepts. ERIC Clearinghouse on Information and Technology. Retrieved from <http://www.ericdigests.org/1998-1/concept.htm> on January 15, 2010.

==> In the following pages you will find an excerpt from the 1997 article mentioned above (yes, it's from a while ago, but still very relevant) that fleshes out the basics of conceptual mapping). It was originally retrieved from the internet on January 15, 2010.

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ERIC Identifier: ED407938

Publication Date: 1997-00-00

Author: Plotnick, Eric

Source: ERIC Clearinghouse on Information and Technology Syracuse NY.

Concept Mapping: A Graphical System for Understanding the Relationship between Concepts. ERIC Digest.

In the 1960s, Joseph D. Novak (1993) at Cornell University began to study the concept mapping technique. His work was based on the theories of David Ausubel (1968), who stressed the importance of prior knowledge in being able to learn about new concepts. Novak concluded that "Meaningful learning involves the assimilation of new concepts and propositions into existing cognitive structures." A concept map is a graphical representation where nodes (points or vertices) represent concepts, and links (arcs or lines) represent the relationships between concepts. The concepts, and sometimes the links, are labeled on the concept map. The links between the concepts can be one-way, two-way, or non-directional. The concepts and the links may be categorized, and the concept map may show temporal or causal relationships between concepts.

PURPOSE OF CONCEPT MAPPING

Concept mapping is a type of knowledge representation. Jonassen & Grabowski (1993, p. 433) state that structural knowledge may be seen as a separate type of knowledge. "Structural knowledge provides the conceptual basis for why. It describes how prior knowledge is interconnected....Structural knowledge is most often depicted in terms of some sort of concept map that visually describes the relationships between ideas in a knowledge domain." Representing knowledge in the visual format of a concept map allows one to gain an overview of a domain of knowledge. Because the nodes contain only a keyword or a short sentence, more interpretation is required of the reader, but this may be positive. Concept mapping can be used for several purposes:

--To generate ideas (brainstorming);

--To design complex structures (long texts, hypermedia, large web sites);

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- To communicate complex ideas;
- To aid learning by explicitly integrating new and old knowledge; and
- To assess understanding or diagnose misunderstanding.

ADVANTAGES OF CONCEPT MAPPING

Visual representation has several advantages:

- Visual symbols are quickly and easily recognized;
- Minimum use of text makes it easy to scan for a word, phrase, or the general idea; and
- Visual representation allows for development of a holistic understanding that words alone cannot convey.

APPLICATIONS OF CONCEPT MAPPING

- (1) Creativity Tool: Drawing a concept map can be compared to participating in a brainstorming session. As one puts ideas down on paper without criticism, the ideas become clearer and the mind becomes free to receive new ideas. These new ideas may be linked to ideas already on the paper, and they may also trigger new associations leading to new ideas.
- (2) Hypertext Design Tool: As the World Wide Web becomes an increasingly powerful and ubiquitous medium for disseminating information, writers must move from writing text in linear fashion to creating hypertext documents with links to other documents. The structural correspondence between hypertext design and concept maps makes concept mapping a suitable tool for designing the conceptual structure of hypertext. The structure of both a hypertext document and a concept map can be seen as a directed graph or a knowledge graph (Conklin, 1987). A concept map placed on the Web in hypertext may also serve as a Web navigational tool if there are clickable areas on the concept map that take the user immediately to indicated parts of the hypertext document.

Designing hypertext is an activity with inherent problems. Botafogo, Rivlin & Schneiderman (1992) describe a dilemma faced by designers of hypertext authoring systems. In order to stimulate authors to write clearly structured hypertext (usually hierarchical), they have to decide when to force authors to reflect upon the structure of their work. Imposing a hierarchical structure from the beginning may result in too many

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restrictions for the author, while any effort to stimulate hierarchy afterwards is too late, and it may even be impossible for authors to restructure the jungle of nodes and relationships. Concept mapping may be a good intermediate step for authors to use to reflect upon their work when developing hypermedia. (3) Communication Tool: A concept map produced by one person represents one possible way to structure information or ideas. This is something that can be shared with others. A concept map produced by a group of people represents the ideas of the group. In either case, concept mapping can be used as a communication tool for people to use to discuss concepts and the relationships between the concepts. They may try to agree on a common structure to use as a basis for further action.

(4) Learning Tool: Novak's original work with concept mapping dealt with learning. Constructivist learning theory argues that new knowledge should be integrated into existing structures in order to be remembered and receive meaning. Concept mapping stimulates this process by making it explicit and requiring the learner to pay attention to the relationship between concepts. Jonassen (1996) argues that students show some of their best thinking when they try to represent something graphically, and thinking is a necessary condition for learning. Experiments have shown that subjects using concept mapping outperform non-concept mappers in longer term retention tests (Novak, et al, 1983).

Concept mapping is also gaining inroads as a tool for problem-solving in education. Concept mapping may be used to enhance the problem-solving phases of generating alternative solutions and options. Since problem-solving in education is usually done in small groups, learning should also benefit from the communication enhancing properties of concept mapping.

(5) Assessment Tool: Concept maps can also be used as assessment tools. The research team around Joseph Novak at Cornell found that an important by-product of concept mapping is its ability to detect or illustrate the "misconceptions" learners may have as explanations of content matter. The conceptions students may have are often incomplete and deficient leading to misunderstanding of instruction. Concept maps drawn by students express their conceptions (or their misconceptions) and can help the instructor diagnose the misconceptions that make the instruction ineffective (Ross & Munby, 1991).

[...]

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Bitner, B. L. (1996). "Interactions between hemisphericity and learning type, and concept mapping attributes of preservice and inservice teachers." Paper presented at the Annual Meeting of the National Association for Research in Science Teaching (St. Louis, MO, March 31-April 4, 1996). (ED 400 196)

Botafogo, R. A., Rivlin, E., & Schneiderman, B. (1992). Structural analysis of hypertexts: Identifying hierarchies and useful metrics. "ACM Transactions on Information Systems," 10, 142-180.

Conklin, E. J. (1987). Hypertext: An introduction and survey. "Computer," 20(9), 17-41.

Inspiration Software. (1994). "Inspiration for windows: User's manual [computer program manual]." Portland, OR: Author.

Jonassen, D. H. (1990, July). What are cognitive tools?. In: P.A.M. Kommers, D. H. Jonassen, & J.T. Mayes (Eds.), "Proceedings of the NATA advanced research workshop: Cognitive tools for learning" (pp. 1-6). Enschede, The Netherlands: University of Twente.

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