

Education 805 / 737-006
Professor Jay Lemke

MULTIMEDIA ANALYSIS AND DESIGN

1. Introduction: Multimedia Analysis and Design

- Multimedia and Multimodality
- Analysis and Interpretation
- Design and Usability
- Research Tools and Research Projects

2. Social semiotics: A model for multimodal meaning

The MxM model:

- 3 Semiotic Functions: Presentation / Orientation / Organization
- Cross-modal integration: The Matrix Model

Lemke, J. L. (1997). *Visual and verbal resources for evaluative meaning in political cartoons*, [website]

Lemke, J. L. (1998). Multiplying Meaning: Visual and Verbal Semiotics in Scientific Text. In J. R. Martin & R. Veel (Eds.), *Reading Science* (pp. 87-113). London: Routledge.

3. What Language tells us about Meaning

Lemke, J. L. (1998). Analysing Verbal Data: Principles, Methods, and Problems. In K. Tobin & B. Fraser, (Eds.), *International Handbook of Science Education* (pp. 1175-1189). London, Kluwer Academic Publishers.

4. Visual semiotics: The Second Foundation (3 weeks)

WEEK 1:

Arnheim, R. (1956). *Art and Visual Perception*. London: Faber. [Chapters on Movement and Dynamics]

Barthes, R. (1977). *Image-Music-Text* (S. Heath, Trans.). New York: Hill & Wang. ["Rhetoric of the Image"]

Kress, G., & van Leeuwen, T. (1996). *Reading Images: The Grammar of Visual Design*. London: Routledge. [Week1: Intro and chapters 1-2; Week 2: Chs. 3-4; Week3: Chs.5-6]

WEEK 2:

Collier, M. (2001). Approaches to analysis in visual anthropology. In T. van Leeuwen & C. Jewitt (Eds.), *Handbook of Visual Analysis* (pp. 35 -60). Thousand Oaks, CA: Sage Publications.

Kress & van Leeuwen, Chs 3-4.

WEEK 3:

Goodwin, C. (2000). "Action and Embodiment Within Situated Human Interaction. *Journal of Pragmatics*, 32, 489-522.

Goodwin, C. (2001). Practices of Seeing: Visual Analysis. In T. van Leeuwen & C. Jewitt (Eds.), *Handbook of Visual Analysis* (pp. 157 - 182). Thousand Oaks, CA: Sage Publications.

van Leeuwen, T. (2001). Semiotics and iconography. In T. van Leeuwen & C. Jewitt (Eds.), *Handbook of Visual Analysis* (pp. 92 - 118). Thousand Oaks, CA: Sage Publications.

Kress & van Leeuwen, Chs 5-6.

5. Video and film: Time, Pace, and Visual Media

From Storyboards to Animation
[Scott McLeod, from *Understanding Comics* or TBA]

Eisenstein, S. (1943). *The Film Sense*. London: Faber. [selections]

Virilio, P. (1984). *War and Cinema: The Logistics of Perception* (P. Camiller, Trans.). London: Verso. [recommended]

6. Video as Research Tool (2 weeks)

Lemke, J. L. (in press). Video Epistemology In-and-Outside the Box: Traversing Attentional Spaces. In R. Goldman-Segall & R. Pea (Eds.), *Video Research in the Learning Sciences*. Mahwah, NJ: Erlbaum.

Goldman-Segall, R., Crosby, M., Swan, K., & Shea, P. (2004). Qualitative and Quisitive Research Methods for Describing Online Learning. In R. Starr Hiltz & R. Goldman-Segall (Eds.), *Learning together online: Research on Asynchronous Learning Networks* (pp. 103 - 121). Mahwah, New Jersey: Erlbaum.

Goldman-Segall, R. (2004). Video perspectivity meets wild and crazy teens: A design ethnography. *Cambridge Journal of Education*, 2(3-4), 147-168.

ORION Project website: <http://orion.njit.edu/> [see Burnsview Galaxy]

Pea, R. (2003). *DIVER: Point-of-View Authoring of Panoramic Video Tours for Learning, Education and Other Purposes*. Santa Clara, CA: EOE Foundation.

Thibault, P. (2000). The multimodal transcription of a television advertisement: theory and practice. In A. Baldry (Ed.), *Multimodality and multimediality in the distance learning age*. Campobasso, Italy: Palladino Editore.

Baldry, A. (2004). Phase and transition, type and instance: Patterns in media texts as seen through a multimodal concordancer. In K. O'Halloran (Ed.), *Multimodal discourse analysis*. London: Continuum.

Baldry, A. (2004). *The MCA system: its role in the development of multimodal corpus linguistics*. Unpublished manuscript, University of Pavia.

Transcription and annotation: Transana, <http://www.transana.org/>

7. Webpages: Hypermedia and Interactivity

Lemke, J. L. (2002). Travels in Hypermodality. *Visual Communication*, 1(3), 299-325.

Lemke, J. L. (2002). Multimedia genres for science education and scientific literacy. In M. Schleppegrell & M. C. Colombi (Eds.), *Developing Advanced Literacy in First and Second Languages* (pp. 21-44). Mahwah, NJ: Erlbaum.

Chiew, A. K. K. (2004). Multisemiotic mediation in hypertext. In K. O'Halloran (Ed.), *Multimodal Discourse Analysis*. London: Continuum.

8. The Third and Fourth Pillars: Sound and Space

Sound and Music

van Leeuwen, T. (1999). *Speech, Music, Sound*. New York: St. Martin's Press. [recommended]

Architecture and Spatial Design in 3 dimensions, VRML

O'Toole, L. M. (2004). Opera Ludentes: the Sydney Opera House at work and play. In K. O'Halloran (Ed.), *Multimodal Discourse Analysis*. London / New York: Continuum.

9. Design Research and Multimedia

Laurel, B. (Ed.). (2003). *Design research: methods and perspectives*. Cambridge, MA: MIT Press. [chapters to be assigned over several weeks]

Samples of multimedia projects: Education, Information Science, and other fields

Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press. [selections]

10. Multimedia Research Tools and Methods

Digital Video technology:

<http://www.psych.uiuc.edu/~kmiller/dvguide/> website

Miller, K., & Kumar, S. (2004). *Let SMIL be your umbrella: Computerized tools for automating presentation and analysis of digital video in behavioral research*.

Unpublished manuscript, University of Illinois, Urbana.

Multimedia databases; qualitative research software:

- NVivo. <http://www.qsr.com.au/products/productoverview/productoverview.htm>
- ORION. <http://orion.njit.edu/>
- Atlas.ti. <http://www.atlasti.de/>

Corpus development and design

Episode selection

Screen recording

Usability studies

Analyzing dynamic data

11. Analyzing Videos in Depth

Lemke, J. L. (1999). Typological and Topological Meaning in Diagnostic Discourse. *Discourse Processes*, 27(2), 173-185.

Other video data from research projects

12. New Media: Games and Game Design

Holland, W., Jenkins, H., & Squire, K. (2003). Theory by Design. In M. J. P. Wolf & B. Perron (Eds.), *The Video Game Theory Reader* (pp. 25 - 46). New York: Routledge.

de Castell, S., & Jenson, J. (2003). Serious play: Challenges of educational game design. *Journal of Curriculum Studies*, 35, 1 - 17.

de Castell, S., & Jenson, J. (2004). Education, gaming, and serious play: New attentional economies for learning. In J. Weiss, J. Nolan & P. Trifonas (Eds.), *International Handbook on Virtual Learning Environments*. New York: Kluwer.