

Evaluation Summary: Arthur C. Danto's "The Artworld"

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Full Report: <http://ccnmtl.columbia.edu/projects/evaluations/danto.pdf>
Summary: http://ccnmtl.columbia.edu/projects/evaluations/danto_summary.pdf (this document)

Project Description: Background & Purpose

History of the Multimedia Study Environment:

Predecessor to CCNMTL's multimedia study environment was its multimedia template (MMT). The multimedia template began as a tool to facilitate close readings of primary source material. It featured hyperlinks to reference sources, such as encyclopedias, dictionaries, and biographies, as well as referenced art work. The purpose was to create a digital desktop of the textual material an instructor would guide a student to consult when studying an essay.

A major innovation of the MMT was the use of a split window, with the right frame containing the primary text and the left frame containing reference sources and other supporting material. The resources area created a context for the core text by linking it to biographical profiles, glossaries of concepts and terms, images, authors' notes (not editorial commentary), and links to relevant web sites.

The second generation of the MMT utilized the same split window template, but added instructors' comments to the resources menu to further enhance understanding of the primary text or spine document. The third generation used the same format and integrated the original idea of a reference index with visual icons and expanded the breadth of resources to include multiple versions and alternative interpretations of the primary text; the King Lear MMT, for example, contains six variations of film direction and characterization.

The idea that the MMT could provide context through links to outside reference resources soon grew beyond the text-based to include the other types of media, such as film and music clips, and still images. The desktop as a unified view of continuously displayed content with pop-up windows and related material in various formats adds another dimension to the idea of studying written text through other written texts. Indeed, it creates a research framework, thus extending the MMT from a study aid to a study environment.

Concept behind the Multimedia Study Environment

The present generation of the MMT, the Multimedia Study Environment (MSE), further expands the learning setting paradigm by increasing the breadth of resources and supplementary study materials available to aid in the analysis of the primary text. The spine document itself is expanded to include sub-discussions around key paragraphs. This enables the experienced instructor to layer various arguments into the primary text for further analysis. These arguments are then linked to specific cases and settings, or to related material that describes the pivot points for new theory. This approach not only provides historical background and elucidates terminology, it also illuminates salient concepts with supporting evidence [upon which a decision has been made]. In this manner, the MSE increases the depth of academic study.

Initially, hypermedia's ability to improve learning performance was unknown; it was believed that "Hypermedia might work better as an information retrieval interface than as a learning enhancing tool" (Lehto et al. 1995). However, "Hypermedia presentation is considered to improve comprehension by virtue of its capability of supporting structured access, rapid manipulation, and individual learner control" (Dillon and Gabbard 1998, 5). Hyperlink technology allows media presentation to employ a variety of sensory experiences. Other means of receiving sequenced information, such as film and video, engage mental imagery and audio imprinting. This sensory input is operationally different from that gained by reading. Sensory input maps onto long-term memory under different cues that may aid the student not only in cross-referencing material, but also in information retrieval. Thus, hypermedia has the potential to be a powerful learning enhancing tool.

Project Description

"Arthur C. Danto's 'The Artworld'" is a multimedia study environment for Arthur C. Danto's 1964 essay, "The Artworld". It is designed for the continuous display of content in the main viewing window and the left resources window. Like its predecessors, the Danto MSE creates a context for the spine document through links to various kinds and forms of supplementary material. In addition to relevant texts and digital representations of artworks, the MSE also includes new video interviews with the text's author Arthur C. Danto, a Columbia University Professor Emeritus, taped in 2001.

Hypermedia technology recreates the experience of traditional study, in which a combination of external resources, including encyclopedias, dictionaries, biographies, period films, and related essays are brought to bear on the primary text

The simultaneous view of the primary text and supplementary resource material does not require the user to divide his or her attention between reference questions and the essay. "Arthur C. Danto's 'The Artworld'" affords users the option of continuously using all available resources to investigate the core document without obscuring the text of the essay.

Overview of the Evaluation Process

Goals

The evaluation aims to determine: 1) the effectiveness of the MSE as a learning enhancing tool irrespective of subject, and 2) the capacity of the MSE to enhance students' understanding of Danto's philosophy of aesthetics.

The Effectiveness of the Multimedia Study Environment

Effectiveness was considered in view of students' intuitive approach to the MSE's hypermedia format and simultaneous presentation of various resources on a single viewing platform.

Engaging the Multimedia Study Environment

The MSE is a new format for multiple content presentation. As such, is there something intuitive about the manner in which people utilize this format? Are there characteristics that operate as universals and others that are specific to particular learning styles? Answers to these questions may be useful to both designers and instructors, especially in regard to introducing the MSE to potential users.

Effectiveness of the Technology

This was evaluated on the basis of the MSE's navigability, graphic presentation, site design, and information architecture.

How Does "Arthur C. Danto's 'The Artworld'" Enrich Students' Understanding of Danto's Philosophy of Aesthetics?

The second goal looks at how the addition of supplementary resources affects the learning process. It involves consideration of the appropriateness of the resources to the primary text for learning comprehension, as well as the arrangement of these resources within the MSE.

Modifications in the Teaching Process

Introducing a new form of media or a new teaching tool to the classroom requires adjustments on the part both students and instructors. What factors aid in the integration of new technology to the learning environment? What obstacles do instructors typically face in attempting to incorporate a MSE into their courses? What can the CCNMTL do to facilitate the integration process?

Methodology

"Arthur C. Danto's 'The Artworld'" is in the formative stage of development. In the fall of 2001 there was no means to evaluate the use of the MSE in an natural learning setting because no courses were using it that semester. The absence of a course makes it difficult to assess learning outcome, since base-line information about student achievement is lacking. The present evaluation is therefore based on 1) observation of the learning process as a self-selected sample of students engages the MSE, and 2) the efficiency of the technology and congruity of content presentation.

Focus Group Recruiting

Student engagement with the MSE was observed through a focus group of 7 participants. The sample was drawn from both the undergraduate and graduate student populations of Columbia University.

Focus Group - Study Design

The focus group was conducted in four parts: 1) a presentation by the Project Manager 2) a period of independent exploration of the MSE 3) a sample essay question to answer using the MSE, and 4) a discussion of the quality of learning that occurred in the environment and of issues pertaining to the MSE's use, presentation and construction.

Focus Group - Documentation

Participants' experiences were documented by means of written survey questionnaires administered at the end of each part of the focus group, direct observation of their engagement with the MSE, and a videotaped group discussion.

Evaluation of Learning Outcome

A smaller sample of students was asked to view the MSE and answer a sample question designed by Professor Michael Kelly, CCNMTL's faculty partner in constructing the Danto MSE. Each of these students was then interviewed on video about their thought processes, awareness, and learning regarding Danto's philosophy of aesthetics.

Faculty Survey Regarding "Arthur C. Danto's 'The Artworld'" and the Learning Environment

A faculty questionnaire was also administered to investigate the integration of "Arthur C. Danto's 'The Artworld'" into courses currently offered at Columbia University.

Findings

Goal One: Engaging the MSE

With respect to the MSE as a subject-independent presentation platform, the study found that those whose cognitive style predisposes them to attend to context rather than specific issues benefited from the MSE's multiple resource

platform, while those with the latter cognitive style were more or less unaffected by it - that is, it neither facilitated nor impeded their preferred approach to learning.

Goal Two: The Effectiveness of the MSE

The second objective of the study was to determine the effectiveness of the MSE in presenting a given subject; namely, Arthur C. Danto's theory of aesthetics. It assessed whether the use of hyperlink technology advanced students' understanding of a primary text, Danto's "The Artworld."

The study participants' response to the MSE in this regard was overwhelmingly positive. "I had the feeling it was much more efficient and much more fun than the traditional style." Studies of hypermedia indicate that format (i.e., traditional vs. hyperlinked text) does not impact students' approach to learning; this is natural to the individual student. However, the wealth of information and rapid access to it that hypermedia format enables increases the rate at which they assimilate the subject matter.

Text vs. Resources

Evidence from the study indicates that participants' attention was focused primarily on the spine document, rather than on the supplementary resources. The following table shows the percentage of users who reported spending relatively more time with a particular component of the MSE.

Text	66%
Interviews/Film	44%
Bios	22%
Notes	22%
Slideshow	22%

Comprehension of the Core Text

Participants indicated that the single viewing platform aided them in focusing on the concepts, meanings, and logic of the author's arguments. They said that the hyperlinked text embedded in the spine document enabled them to develop a framework for understanding key points and building counter-arguments.

Studies of the effect of hypermedia on comprehension indicate that it offers no immediate advantage when supplementary resources are text-based. However, when the subject of the spine document text involves visual objects, hypermedia does present a benefit. As Psotka, Kerst, and Westerman report, "hypermedia...enabled learners to develop a better sense of similarities and differences between objects" (1993). Likewise, the participants in this study reported that the combination of textual and visual material had a positive affect on their learning. "An example in the text is Kandinsky, the switch of styles from mimetic and representational to abstract. So, by clicking on the [hyperlinked] name Kandinsky, it brought me to the side bar. I could go into the images from there. It was really helpful, because I could see the progression of style."

Expert Representation of Knowledge Domain

Undergraduates said they benefited from the range of available resources. Their comments centered on the means of associating contextual material to the essay. These responses support Jonassen and Wang (1993), who argue that hypermedia's support of structural mapping...lend[s] itself ideally to helping novices acquire an expert's representation of a subject domain." Graduate students' comments emphasized the depth and accuracy of information the references provided.

Recommendations

This study's results indicate that Danto's essay is indeed illuminated by the contextual material assembled in the

MSE. However, actual learning performance must be assessed by an additional study that controls for participants' prior knowledge and writing skill. Further research also needs to be conducted with regard to learning environment and teaching modification. The earliest opportunity to conduct such research will be in the spring of 2002, when the MSE will be used in a classroom setting.

Conclusion

The MSE does manifest the heuristics for a focused reading of a primary text. However the resources available are used differently depending on a student's individual learning style. Students first attend to the range of content available as determined by navigational cues such as headings, titles, and sub-menus. Findings indicate that navigational aids must match information architecture for the full range of resources to be visible to users. The amount of prior Internet experience affects whether and/or the degrees to which students get lost in the resources or in using the MSE. Common Internet terminology, for example, "slide show," is not always familiar to them. A term such as "art gallery" would be more accessible.

In contrast, previous experience with extensive indexing systems is not necessary for users to successfully manipulate the MSE's reference menus. Specialized features such as the compare/contrast option for viewing artwork are often forgotten about after formal introduction to the MSE or not used at all if no such instruction has been received.

The MSE's overall layout works for most participants, however, the practice of combining the resource window with the primary text is confusing for some. The global format is the most effective feature, allowing variations in approach based on individual learning style, learning orientation, and cognitive style.

The study finds the MSE to be an effective support for close examination of primary texts. Its main advantage is rapid access to immediately relevant supplementary material that illuminates the author's ideas as well as their social, cultural, and historical significance.

References

- Lehto, M., et. al., *International Journal of Cognitive Ergonomics*, 2, September 1995.
- Dillon, P., (1998), *Multimedia and the Web from A to Z*, Oryx Press, 5.
- Potka, J., et. al., (1993), *Intelligent Tutoring Systems : Lessons Learned*, Lawrence Erlbaum Associates.
- Jonassen, D., et. al., (1993), *Structural Knowledge: Techniques for Representing, Conveying, and Acquiring Structural Knowledge*, Lawrence Erlbaum Associates.