

# Semiotics: Mediation Tools That Can Fill ELearning Gaps

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**Abstract:** ELearning is particularly susceptible to the transference of print documents to the web which often only provides text and information tidbits to students. But researchers in the learning sciences are finding dramatic improvements in student knowledge acquisition in web-based courses that include semiotic tools. The knowledge gaps that can exist between what students know and need to learn can be filled through the use of semiotic mediation tools. The research of this study looks at why these tools can provide an important bridge between the sociocultural knowledge already existent in students and instructional content and discusses lessons learned in the compilation of the research for this study.

## Introduction

While critics of semiotics as a separate and unique field of study often purport that symbols, narratives, and text are, de facto, parts of every document and web page, the truth is that many of these critics are not aware of the impact these semiotic representations have on knowledge acquisition. ELearning is particularly susceptible to the vagaries of many instructors who simply transfer their textbook documents to the Web. In these types of information vehicle transformations and transitions, often important aspects of knowledge transference are omitted from those transmissions. Knowledge gaps can exist that go undetected and, unless identified, could leave students emerging without retaining the desired learning materials. What happens is that the students read the new content information presented in this textbook-online transference, but fail to integrate it into their consciousness.

So, what are the gaps between what the students are presented and what the students absorb and integrate? This was the question I asked to conduct research on “knowledge gaps” in eLearning. Do gaps exist between new web-based information and what the learners read and absorb? What are the findings in the research literature in the field of eLearning that address eLearning and the success of elearning on student acquisition of knowledge? I researched this topic and also the field of Semiotics and conducted four action research studies, three at a southwestern public university, and one at a Midwestern private university, to see if there was a difference between retention in web-based studies created as text-transfer Internet courses and in courses that were designed to use semiotic tools as mediation devices with students’ existing knowledge.

This roundtable discussion will present the findings of these four studies and compare the findings of those studies with seminal research in the fields of eLearning and Semiotics. The seminal research studies include studies of student achievement in higher education and in professional training environments to see which factors have had the greatest success in learner knowledge acquisition and retention. It will use both archival data from cross-disciplinary studies and the action research studies conducted by the researcher over the last three years, from 2002-2005 (September). While the findings of this study may not generalizable, the findings suggest further research should be conducted into the incorporation of semiotic tools into the design of web-based eLearning to mediate new information with students’ current knowledge. Further research could also look at the potential benefits of conscious inclusion of semiotic tools into instructional designs of eLearning to reduce any knowledge gaps in student learning.”

## Review of Literature

Research over the last several years has taken a broad look at what factors influence learning in students, particularly higher or continuing education students using technology in their coursework (Cole, 1985; Davidov, 1985; DelRio & Alvarez, 1995; Gee, 1990; Greene, 1997; Lee, 1985; Olsen, 1995; Popkewitz, 1998 Warner, 1997). But research in the arena of commerce has found some interesting data on what influences learning that may shed new light on the importance of semiotics (Zaltman, 1997), and even more interesting is the research conducted over thirty years ago that pointed to semiotic elements that influenced language and learning.

Often in the creation of a new medium of knowledge communication, such as the Internet, old successful methods of communication are by-passed (McLuhan, 1968, 1976). The history of the human race is based not only on the achievements of individual minds but on the recognized forms of representation available to the ancestors that enabled them to make their ideas and feelings public through culture forms (p.349).

Literacy includes the forms of representation that convey anthropological, historical, artistic, and inherently recognizable meaning on multiple levels of cognition. Current iconic representations and metaphors used in technology are rapidly taking on grass-roots recognition among peoples of many cultures and languages. So, to assure this new evolving “technoculture” is thoroughly integrated into on-line courseware design, the “old” knowledge must converge with the new (Gannon-Cook, 1998; Gannon-Cook, Crawford, 2006).

Semiotics can provide technology with imprints, familiar symbols, metaphors and narratives that can mediate with the mind to facilitate learning (Wertsch, 1985). Without finding a way to sift through the overwhelming amount of raw information on-line, it might be difficult to assess how learners best utilize all of this information, particularly learners from diverse cultures, socio-economic backgrounds, and learning styles. Tools that mediate between this technoculture and human consciousness could provide a safety zone where new blueprints could be drawn for both. Symbols and metaphors can render the process of relevance-making possible and could be particularly useful in mediating with a rapidly developing global culture that functions at warp speeds and creates virtual tourists and gypsies, not citizens (Freiberg & Driscoll, 1995; Gannon-Cook, 1998; Salomon, 1997).

## Summary

This study has presented the concept that semiotic tools can facilitate the scaffolding of new knowledge on primal knowledge through tool mediation and reinforce learning in online courses. More research in this area could prove invaluable in the contribution to the body of knowledge on web-based learning. Students who may not be comfortable with online courses may feel differently if there were alternative online models that offered embedded semiotic symbols, metaphors, and narratives that enlist prior sociocultural knowledge of the learners. With the planned inclusion of semiotics in eLearning courses, there could be a broader range of students who can navigate and complete online courses.

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