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AUTHOR Henry, Anne; Crawford, Caroline M.

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ABSTRACT

The inclusion of metaphors within a World Wide Web-based environment offers users the opportunity not only to obtain a visual understanding of the information being presented, but also aids users in developing a clearer understanding of the information and builds on their previously conceptual framework of understanding. The importance of a Web-based collaborative educational learning venture is also enhanced. This paper covers the following topics: definition of a metaphor; the information context and getting the information across; metaphors within an e-learning environment; and the learner's conceptual framework. (Author/MES)

Title: Creating a Collaborative Web-based Environment Through the Inclusion of Metaphorically Enhanced Graphics

Authors: Anne Henry

Instructional Technology Center

University of Houston – Clear Lake

United States of America

henry@cl.uh.edu

Caroline M. Crawford

Instructional Technology

University of Houston-Clear Lake

United States of America

crawford@cl.uh.edu

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The inclusion of metaphors within a World Wide Web-based environment offers the users the opportunity to not only obtain a visual understanding of the information being presented but also aids the users in developing a clearer understanding of the information and builds upon their previously conceptual framework of understanding. The importance of a Web-based collaborative educational learning venture is also enhanced.

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Introduction

Designing and developing a collaborative Web-based environment for electronic learning (e-learning) is a difficult venture, wrought with numerous obstacles and many levels of concern that is focused upon the learner. One aspect of interest that offers the ability to aid the e-learner is the inclusion of a metaphor within the e-learning environment. The inclusion of a metaphor within the e-learning situation offers two aspects that further enhance the learner's experience: develops a conceptual framework of understanding through which the learner can further enhance prior knowledge and conceptualize a higher level of understanding towards the knowledge being obtained; and, creation of a

learning community in which the learners feel a sense of comfort and cohesion. Through the integration of metaphorically enhanced graphics to further enhance the e-learning environment, another aspect is developed. A sense of community is presented to the learner and, in turn, a collaborative e-learning environment is well on its way towards realization.

Definition of a Metaphor

Metaphors impact each day of our lives and every part of our environment. For this reason, metaphors offer an underlying sense of understanding and levels of comfort that are imperative for the learners within an e-learning environment. Samuel Taylor Coleridge, who lived from 1772 until 1834, stated that

> The imagination ... that reconciling and mediatory power, which incorporating the reason in images of the sense and organizing (as it were) the flux of the senses by the permanence and self-circling energies of the reason, gave birth to a system of symbols, harmonious in themselves, and consubstantial with the truth of which they are the conductors. (As quoted by Veale, 1995, paragraph 1)

The imagination enhances the learner's level of knowledge attainment and furthers the development of higher order thinking skills due to the symbols of universal understanding that underlie the e-learning course's physical structure, scope and

sequence. Further, the integration of a metaphor, especially through the use of metaphorically enhanced graphics, enhances the information context.

Information Context: Getting the Information Across

Getting the information across to the learner is the focus of any learning environment, whether it is in a face-to-face, an electronically assisted or a totally electronic environment. For this reason, the information context through which the knowledge is presented to the learner, the environment that further develops a sense of community, and the instructional design that further enhances the knowledge and aids the learner through the process of developing higher order thinking skills on the subject matter are imperative for the e-learning environment. For such a situation, any learning environment must get the information across to the learner. Metaphors further enhance the e-learning environment and offer a contextual environment that further enhances the instructional design, community and development of higher order thinking skills pertaining to the subject matter. After all, "Human beings are fundamentally metaphoric animals, and all our creative intellectual endeavors (including both software and philosophy) are constituted by the patterns of bodily feelings which motivate metaphors. The metaphors we use to understand ideas, minds and user interfaces are not separable from the 'things themselves'" (Rhorer, 2000, paragraph 13). Metaphors enhance the learner's understanding of the information and aid the learner in contextualizing the materials of instruction and knowledge acquisition. The careful consideration of a metaphor's integration within the e-learning environment offers the inclusion of metaphorically

enhanced graphics that offer visual cues to the developing conceptual framework of understanding. Further, a collaborative e-learning environment is aided through the integration of the metaphorically enhanced graphics, due to the facilitator's instructional design that aids the learner's desire to enhance their levels of understanding and further develop higher order thinking skills associated with the subject matter.

Metaphors Within an E-Learning Environment

Electronic learning (e-learning) environments are enhanced through the inclusion of an appropriate metaphor. The problematic situation associated with an e-learning environment is the lack of physical presence on the part of a course facilitator, fellow learners and a physical structure in which a learning environment is traditionally housed. The e-learning environment must accomplish the learner's desire for these imperative levels of comfort in order to offer the learner a focus upon the knowledge presenting within the e-learning context. "On this view metaphor is just another way, possibly a very helpful way, to transfer into the users mind the model of the program the designer thinks the user should have" (Rohrer, 2000, paragraph 12). The integration of a metaphor within the e-learning environment "set the stage", so to speak, for the learner's understanding of the course knowledge and to further enhance the learner's integration of the presented knowledge into the redefining and further enhanced levels of the learner's conceptual framework of understanding.

Conceptual Framework

The learner's conceptual framework is the cognitive level of understanding through which all information and knowledge must be integrated. A conceptual framework is a body of knowledge that is constructed into a cohesive understanding of the world. For example, a mind map is a simplistic metaphor for a person's conceptual framework. The learner's understanding of the world is uniquely their own and, through their understanding of the world is integrated knowledge that the learner integrates each day. However, each bit of knowledge that the learner obtains is related to numerous other bits of information and a string of bits of information develop into an understanding of a subject matter. Yet the conceptual framework for new subject matter, such as the information contained within an e-learning environment, is not yet developed and must be introduced to the learner so that an understanding of the knowledge and a cohesive conceptual framework of information is developed. The inclusion of an appropriate metaphor within and through out the e-learning environment is an appropriate mental model for the e-learning through which to begin the development of a conceptual framework associated with the course subject matter.

Conclusions

Creating a collaborative Web-based environment through the inclusion of metaphorically enhanced graphics can be a difficult venture. However, through the careful and appropriate choice of a metaphor, the inclusion of metaphorically enhanced graphics will

further the collaborative, creative e-learning environment that all e-learning environments strive to develop.

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Signature: Caldrie M. Crawford	Printed Name/Position/Title: Caldrie M. Crawford, Assistant Professor
Organization/Address: University of Houston-Clear Lake 2700 Bay Area Blvd. Box 50 Houston, TX 77058-1098	Telephone: 281.587.2930 FAX: 281.283.3563 E-mail Address: crawford@cl.uh.edu Date: 01.31.02

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