Chapter X

Interactive E-Learning

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Abstract

This chapter introduces the concept of improving student memory retention using a distance learning tool by establishing the student's communication preference and learning style before the student uses the module contents. It argues that incorporating a distance learning tool with an intelligent/ interactive tutoring system using various components (psychometric tests, communication preference, learning styles, mapping learning/teaching styles, neurolinguistic programming language patterns, subliminal text messaging, motivational factors, novice/expert factor, student model, and the way we learn) combined in WISDeM to create a human-computer interactive interface distance learning tool does indeed enhance memory retention. The authors show that WISDeM's initial evaluation indicates that a student's retained knowledge has been improved from a mean average of 63.57% to 71.09% — moving the student from a B to an A.

Introduction

This chapter discusses interaction between the computer interface and the user in e-learning and indicates that the correct use of component parts, as a result changing the way the interface interacts with each student, is likely to enhance his or her memory. Catania (1992) reports that sensory input is mainly derived from iconic (sight) 60%, auditory (hearing) 30%, haptic (touch) 10% — as little derives from olfactory (smell) and gustatory (taste). Driscoll and Garcia (2000), Fleming (2001), Fleming and Mills (1998), Fuller, Norby, Pearce, and Strand (2000), and Murphy, Newman, Jolosky, and Swank (2002) show that everyone has his or her own sensual preference for exchanging ideas, and acquiring and passing on knowledge. Sadowski and Stanney (1999) report that there is a tendency to prefer one sensory input (visual, auditory, or kinaesthetic — tactile/haptic). Fleming's 2001 research shows that most students prefer multi-modal communication. Liu, Pastoor, Seifert, and Hurtienne (2000) assert that multi-modal interfaces are more natural and engaging, encouraging a wider use of human senses and perceptual systems and that, latterly, video-games are introducing the Haptic sense, with the mouse and joysticks, and balance through headsets.

Hypothesis

As this chapter's authors, we consider that communication preference (CP) linked to learning styles (LS) interaction is not used in e-learning (Janvier & Ghaoui, 2001, 2002a, 2002b). Our research hypothesis is

Matching neurolinguistic (NLP) language patterns in a distance learning tool (DLT)-interactive/intelligent tutoring system (ITS) will enhance human-computer interface/interaction (HCI) communication and, thus, enhance the storing of and recall of instances to and from the learner's memory.

WISDeM (Web intelligent/interactive student distance-education model) develops this.

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