Chapter 13

Implications of Similarities in Instructional Design, Learner Interface Design and User Interface Design in Designing a User-Friendly Online Module

Titilola T. Obilade
Virginia Polytechnic Institute and State University, USA

ABSTRACT

The development of a user-friendly online module depends on the inputs, the processes and the outcomes from the user interface design, the learner interface design and the instructional design. The online module includes the user interface design, the learner interface and the instructional design. This chapter would examine the theories behind these three designs. What guidelines can be garnered from the theories of these three designs? How can these guidelines be used to develop a user-friendly online module? In addition, it would examine their similarities and how they can be used to develop a user-friendly online module. Further, the chapter recommended an alignment of the garnered guidelines from the three designs to explore the plausible reasons for the high attrition rate in Massive Open Online Courses (MOOC).

INTRODUCTION

Many online modules exist and it is not all these websites that are user-friendly. Online modules are platforms that allow communication between the learner and the module. Usually, when the learner is at the computer, the designer is not going to be present. Whether the use of a website is for learning or for purchasing goods; the website needs to be user-friendly. This chapter would examine the theories in user interface design, learner interface design and instructional design. Further, it would garner guidelines from their theories. In addition, it would examine how the similarities in these three designs can be used in developing a user-friendly online module.
USER INTERFACE

User interface design began with the design of software systems like Microsoft Disk Operating System (MS DOS), MS Windows, Windows 95, Macintosh Operating System (Mac OS and later with the development of application software like word processors, spreadsheets and graphic designs (Jones & Farquahar, 1997). There are many definitions of user interface.

“User interface is the communication medium between the user and the technology or machine” (Vrasidas, 2011, p.228). It is through the user interface that humans can talk to the computer (Galitz, 2002, Chap. 2). It is the human end of the computer (Beynon-Davies, 1993, Chap. 19). A user interface is the software and hardware of the computer that allows the user to interact with the information from the computer (Mandel, 1997, Chap. 2).

Human-computer interface and human-human interface are synonyms for the user interface (Marcus, 2002). A user interface has input and output devices. These input devices include the mouse, the finger (for touch screen), keyboard and the voice for voice recognition (Galitz, 2002, Chap.2). The screen display is an output device. A user interface is the channel of communication that occurs between the user and the computer.

Computer based instruction was initially limited to text on the computer screen that was controlled by the keystroke from the keyboard. After the introduction of the graphical user interface, instructional delivery through the computer became revamped (Jones, 1995). User interfaces should be unobtrusive in their function by allowing the user to work seamlessly with the technology (Galitz, 2002, Chap.2; Vrasidas, 2011). The user interface is made up of windows, controls, menus, buttons, metaphors, online help and documentation.

The user interface is not the Hyper Text Markup Language (HTML) code (Vrasidas, 2011). It also includes non-traditional components like trackers, 3 D pointing devices and whole hand held devices (Bowman, Kruijff, LaViola & Poupyrev, 2001). User interfaces with assistive technologies have additional icons that would indicate the type of assistive technology on the user interface (see Figure 1). The mouse pointer enhancements are an assistive technology device for the user interface.

Figure 1. The four red lines on the computer screen enclose the cursor so that users with visual challenges can quickly locate the cursor (The red lines would appear as grey in a black and white image)
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