This paper discusses how the author developed a Multimedia Program Measurement Instrument in consonance with proven design principles from the behavioral and cognitive sciences for instructional design and using several software tools. This is a program developed for her dissertation research which was used for the initial pilot and field testing in the Spring and Summer 2000 semesters followed by a second pilot and field testing and Final Experimentation in the Fall 2000 semester at the University of Central Florida, C&I Instructional Systems. Her study is concluding in the Spring 2001 semester. The research study addresses the effect of three types of icon symbol formats viz., abstract, drawing-pictorial, and photographic-pictorial on a user’s learning and performance. The measurement instrument consists of a lesson followed by a quiz on the “Advanced Features of a Digital Video Camcorder”. Divided into three parts, the first part discusses the design of the interface and how principles of design was applied for ease of use. The second part of the paper discusses the tools for creating the multimedia program and to capture user’s action and scores on the test. The paper is concluded in the third part by drawing up suggestions for applying similar approach to a variety of uses, whether standalone CD-based or web-based.