Chapter VIII

KABISA:
Evaluation of an Open
Learning Environment

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ABSTRACT

This chapter focuses on the last phase of the systematic instructional design approach, ADDIE. This evaluation phase is illustrated through means of a case study, namely the evaluation of a computer-based training program, KABISA. The leading evaluation questions were whether students followed a criterion path and whether students used the embedded

help functions. Ninety-seven physicians following post-graduate training in tropical medicine participated in this evaluation. Log files were kept of the students and 21 students participated in thinking-aloud sessions. Results indicate that students do not follow the criterion path and that only poor use is made of help functions. This evaluation study shows that a systematic approach to instructional design remains highly valuable.

INTRODUCTION

Educational goals have generally shifted from knowing everything in a specific domain, to knowing how to deal with complex problems. Reasoning and information processing skills have become more important than the sheer amount of information memorized. In medical education the same evolution occurred. Diagnostic reasoning processes get more strongly emphasized. Whereas previously knowing all symptoms and diseases was stressed, reasoning skills have now become educationally more important. They must enable professionals to distinguish between differential diagnoses and to recognize patterns of illnesses (e.g., Myers & Dorsey, 1994).

Authentic or realistic tasks have been advocated to foster the acquisition of complex problem-solving processes (Jacobson & Spiro, 1995; Jonassen, 1997). In medical education this has led to the use in education of expert systems. Such systems were initially developed to assist practitioners in their practice (e.g., NEOMYCIN in Cormie, 1988; PATHMASTER in Frohlich, Miller, & Morrow, 1990; LIED in Console, Molino, Ripa di Meanan, & Torasso, 1992). These systems simulate a real situation and were expected to provoke or develop students' diagnostic reasoning processes. However, the implementation of such expert systems in regular educational settings has not been successful. Instead of developing reasoning processes, these systems assume them to be available. They focus on quickly getting to a solution rather than on reflecting on possible alternatives. Consequently, it was concluded that students need more guidance in the development of diagnostic reasoning skills (Console et al., 1992; Cromie, 1988; Friedman, France, & Drossman, 1991); instructional support was lacking.

KABISA is one of the programs that was purposely designed to help students in the development of their diagnostic reasoning skills (Van den Ende, Blot, Kesten, Gompel, & Van den Enden, 1997). It is a dedicated computer-based training program for acquiring diagnostic reasoning skills in tropical medicine.

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