

Chapter 26

Formative Evaluation of an Online Educational Game

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ABSTRACT

This chapter discusses the creation of an educational game about sexually transmitted infections. STIs: Stopping the Transmission was created using the Parcheesi™ generic educational game shell (GEGS). It also presents the validation of the game with experts, followed by its trial with secondary school students to measure the effectiveness of the motivational mechanisms provided by the shell and its adequacy in meeting teachers' pedagogic requirements.

INTRODUCTION

Formative evaluation, the fifth and final stage in creating a GEGS, consists of trials of an educational game created with the GEGS, with game and content experts, and with the game's target learners. To accomplish this evaluation, the game designers must specify the formative evaluation framework, develop measurement instruments for experts and target learners, validate the game content and revise it if necessary, and finally conduct trials with target

learners to measure the pedagogic and technological aspects of the online educational game.

This chapter describes the steps in the formative evaluation process. In the first part, we discuss the game *STIs: Stopping the Transmission*, developed using the *Parcheesi* GEGS. The game was created by doctors with expertise in health promotion and prevention of sexually transmitted infections (STIs). The second part presents the validation by experts of the relevance and accuracy of the game's design and learning content. In the third and last part, we describe a trial of the game, conducted with 14- and

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15-year-old students. Two aspects are examined: the effects of the game's motivational support tools, including feedback, challenge, competition, and active participation, and the game's ergonomic quality (design, user friendliness, and readability) from the point of view of the learners.

THE GAME—STIS: STOPPING THE TRANSMISSION

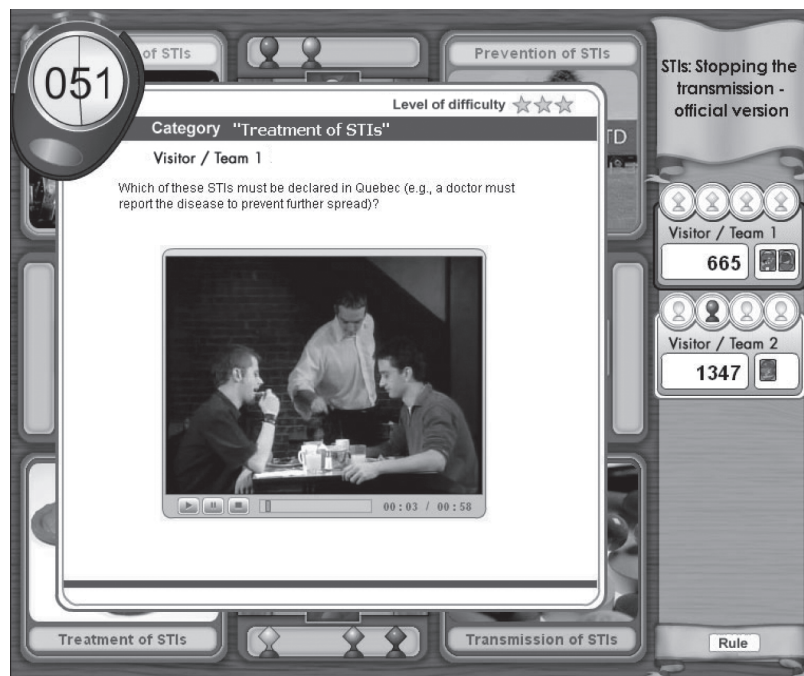
Two doctors joined our research team to develop a game on sexually transmitted infections (STIs) using the *Parcheesi* GEES. The game was called *STIs: Stopping the Transmission*. They focused on developing cognitive questions related to four aspects of STIs:

- **Prevention:** Eleven questions teach the best ways to break the cycle of transmitting STIs, such as types of condoms, identifying high risk behavior, etc.

- **Prevalence:** Eleven questions report the current situation, the high number of infected cases and STI carriers, and information concerning the infections themselves (their nature and seen or unseen effects)
- **STI transmission:** Eighteen questions deal with the ways in which different STIs can be transmitted and call into question widespread popular beliefs
- **Treatment:** How certain STIs can be treated, managed, or cured, how STI transmission can be prevented, and some questions address what steps should be taken when someone believes he/she has been exposed to an STI

56 questions were created using various question types: yes/no, true/false, multiple choice (2, 3 or 4 possible answers), fill-in-the-blank sentences, and logical sequence questions. Images, sound clips and videos were also used in some questions, as shown in Figure 1.

Figure 1. Multimedia question example



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