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## Educational Virtual Escape Room in Pharmacy: An Engaging Tool for Learning

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### Abstract

Escape rooms, in which participants discover clues, solve puzzles, and complete tasks within a limited time to achieve a specific goal, have emerged as an innovative and effective educational tool. They are particularly useful for reviewing and consolidating previously acquired knowledge and promoting the development of transversal skills. However, their implementation in the classroom is challenging, as the setting and activities must be adapted to the available physical space. Virtual escape games offer a practical solution to these limitations. This study aimed to design, develop, and implement a virtual escape room in a Pharmaceutical Technology course. The game consisted of 12 puzzles and was completed in the classroom by students working in groups of 3-4 participants through the Moodle platform. Student satisfaction was assessed using a Google Forms questionnaire. A total of 60 students participated and 68% completed the satisfaction survey. All respondents found the activity interesting, and nearly 90% considered it useful for studying the course, especially as a review tool (97%). The participants valued the opportunity to learn through play (82%). Interestingly, most respondents (80%) identified no disadvantages. However, 12% would have preferred a longer activity and 8% a more elaborate game context. Virtual escape games can motivate students and provide an effective tool for reviewing course content.

**Keywords:** Active learning; Educational technology; Gamification; Higher education; Student motivation.