

Cell EXPLORERS final year student research projects 2023

Title: Evaluation of the Cell Explorers Escape Room as an educational outreach activity

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Project time: Academic year 2022-23, semester 2

Escape rooms are a form of game-based learning whereby the participants involved must solve a series of puzzles in order to escape the room, and they must do so within a certain period of time. In recent years, the design of ERs for class-based learning has risen, these are termed educational escape rooms, and they are intended to enhance student motivation and engagement, foster peer learning, and enable autonomous learning. The aim of this project was to evaluate the final version of the Cell Explorers Escape Room (CEER), run in the post-primary school context using the feedback collected, to determine how well the design and implementation allow it to fulfil its role as an escape room and a Cell Explorers activity, as well as to investigate its overall impact on the participants involved.

The data was collected from a questionnaire completed by participants before and after playing the CEER and analysis was performed using Excel.



Figure 1. CEER characteristics. The props and puzzles used in the room.

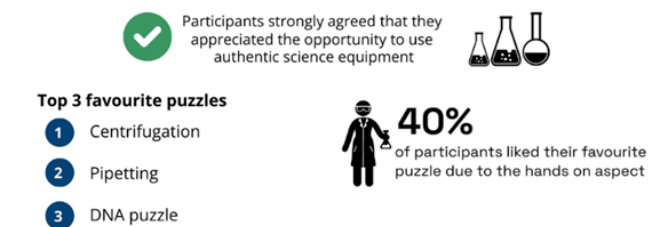
The results indicated that the CEER offers students an enjoyable and engaging experience by allowing them to work as a team, use authentic science equipment, and conduct experiments. Regardless of self-reported scientific knowledge and/or scientific interest, all participants could complete the room with these factors appearing to have no influence on their completion times suggesting that the CEER offers an equitable experience and has potential to widen participation in science. Furthermore, the CEER appears to increase participants interest for engaging in similar science-related activities.

Key findings from the Cell Explorers' Escape room

The CEER as an Escape room



The CEER as a hands on activity



An equitable experience



Impact of the CEER on participants

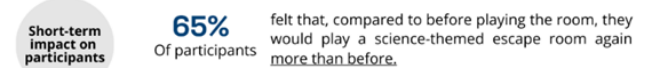


Figure 2. Summary of key findings from the evaluation research. Results were gathered from questionnaires completed by participants (N=123).

Completing this project provided me with the opportunity to learn new skills. I feel that my ability to present and communicate effectively has considerably improved as a result of my participation in weekly progress meetings, and I have also become more proficient in Excel, as by the end of the project, I had learned how to organise data for easier visualisation and how to create pivot tables, stacked columns, and clustered charts.

I would recommend this programme to final year students because of the multiple skills that they could benefit from, as well as the fact that the supervisors and Cell Explorers' team are very helpful and offer support and guidance throughout the completion of the project.