

A WEB-BASED SERIOUS GAME ABOUT SELF-PROTECTION FOR COVID-19 PREVENTION: DEVELOPMENT AND USABILITY TESTING

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INTRODUCTION

Serious game,
the element of uncertainty in games can increase and sustain players' participation and awaken their psychological need to overcome challenges.

Covid 19
a serious game that includes both entertainment and educational purposes is a useful model for COVID-19 prevention.

Situated-based learning,
constructivist cognition theory emphasising the need for users in an authentic learning context.

METHODOLOGY

The present study developed a serious scenario-based interactive web game (hereafter, WSG-COVID-19.SP). The purpose of the game is for users to learn about personal protection measures against COVID-19.

Six experts were commissioned to assess the validity of the knowledge and content related to COVID-19 prevention.

71 users (university students) completed the game system survey.

(I) Interface and screenshots in WSG-COVID-19.SP game system



Entering the WSG-COVID-19.SP game system: a) the game goal, b) the interface, c) daily tasks of day 1, d) optional task for buying mask, e) checking the forehead temperature (game outcome indicator for pass task), and f-h) key steps for choosing the correct mask

(II) Day 1 scenarios



Hospital scenario: a) choosing the required task for going to hospital, b) remember to wear a mask, c) wear a mask when visiting Grandpa, and d) finish this game task in hospital scenario

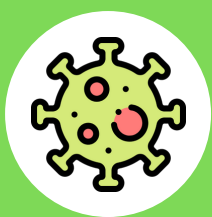


Public park scenario: a) when to hand-rub (before touching eyes), b) how to hand-rub, c) interactive simulation of hand-rubbing, and d) the duration of hand-rubbing in seconds

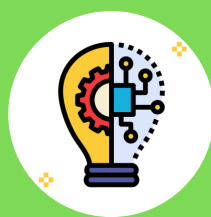


Classroom scenario: a) show statuses of required tasks, b-c) when to hand-rub (before eating), and d) hand-rubbing before eating

CONCLUSIONS



Users indicated a high intention to use it in the future. They also believed that the current system design provides play-based fun, effective assessment and learning process, and meaningful diagnostic reports for personal reflection and correction.



Cognitive load was the only dependent variable affected by users' IT competence. When using the system, users in an IT-related study experienced a lower cognitive load than those who did not.



Through the use of simulation scenarios, users can be aware of epidemic prevention in their daily lives. It can be concluded that WSG-COVID-19.SP demonstrates a valid serious game design with adequate content validity.

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