

Gamified Learning for Disaster Preparedness

Ken-Lauren Daganio
National University Manila

September 5, 2018

1 Abstract

The Philippines is a country that is always riddled with frequent natural disasters. In such situations, children are the most vulnerable. In this paper, we explore the use of a game as a teaching tool for disaster preparedness specifically targeted to children. The game Project: LIG-TAS, is a role playing game that presents the player with disaster situations with the end goal of surviving. The game features a level editor, so that parents or guardians may show an accurate representation acting as an analog for a real life place or event. The research posits that frequent exposure to pseudo-realistic situations will equip children with enough information to create decisions that will increase rates of survival.

2 Introduction

3 Methodology

3.1 Experiment Setup

The experiment group will consist of twenty children, split into ten boys and ten girls, with ages from three to five. The group will be split into two groups of ten. The first group will be the control, they will not partake in the games, and will be our baseline for measurement. The

second group will be exposed to the game for two weeks, with no limitation in play time. In this run of the experiment, we will be using a fire as our disaster situation.

3.2 Game Exposure

The game will be set up by a parent or guardian using the level editor to mimic the layout of their current living situation. The main challenge of the game will be to escape the house once the fire breaks out, given a limited time. Further stages will decrease the time limit. Exposure should be done at least once a day, for the duration of the two week testing period.

3.3 Evaluation

The test will be set-up as follows, a pre-defined exit point will be marked, obstacles will be cluttered within the house blocking the default exit path, a judge will time the duration of the activity. The test will be done three times considering the following criteria:

1. Speed of Escape
2. Number of Hit Obstacles

After the two week exposure period, both groups will be re-tested to see if any improvement has been made.