

EARTHQUAKE IMAGINATION GAME (EIG)
A New Fun Digital Game from Thailand for Earthquake Hazard Reduction

By Surachai Chupaka²

The “Enjoy Earthquake Imagination Game” (EIG) is an alternative tool that local people can use to gain better skills in earthquake hazard reduction. The game is combined with fun steps that enable disaster inexperienced people to learn and practice activities that will help them be better prepared to solve problems in an earthquake scenario.

The EIG was derived from a participatory study entitled, “The Factors that Influence the Earthquake Preventive Behavior of High-Rise Building Residents in Bangkok,”³ and from the original Japanese concept of the Disaster Imagination Game (DIG).

While DIG encourages local people to be aware of natural disasters through visual hazard imagination exercises in their communities, the EIG helps all players enjoy developing their preventive skills via creative earthquake jigsaws and an exciting shaking box, accompanied by a new digital high-risk animated game and survival competition.

The research findings showed that local people, including students who live in high-rise buildings in Bangkok, had high risk earthquake hazard response behaviors, since more than 60% of the residents indicated that they would run out of their building in an earthquake rather than following the “Drop, Cover and Hold” or “Safety Triangulation” principles of earthquake mitigation.

The study found that exposure to foreign news reports on earthquake hazards, and domestic perceptions and practices of fire safety principles significantly misled respondents who chose to run out of the building. Most chose to run as they would in the event of a fire, following the relevant fire safety signs, because they thought their earthquake response should be the same as their fire response.

To reduce fear arousal from media exposure and prevent the dissemination of misinformation, researchers developed the EIG to give those who lack earthquake information effective earthquake response skills, and to teach them how to deal with earthquake situations in a lighthearted and fun context.

The EIG begins with an earthquake-related jigsaw competition and the shaking box demonstration among players, which aims to convey information about earthquake hazards. The jigsaw game helps participants understand the causes and effects of an earthquake, while the shaking box demonstrate the side-effects of earthquake aftershocks.

² Surachai Chupaka, a lecturer at Ramkhamheang University in Bangkok and the director of the Earthquake Preventive Behavior Research Project, launched the research project after visiting the earthquake memorial museum in Kobe in 2007.

³ The project, which was funded by the Thai Health Promotion Foundation, used quantitative and qualitative methods to determine the main causes of improper behaviors among residents of a high-rise building in Bangkok. Hundreds of questionnaires and group interviews with the residents were conducted in 2008.



Students learn the causes and effects of earthquakes with the jigsaw competition.



The shaking toy box is another visual instrument to enable all players to understand seismic power. They can observe how the various postures and positions of the toys will be affected by the force of the shaking.

Meanwhile, all participants will be instructed to follow the leader in a physical activity to help them learn about changes in the earth's surface after an earthquake (the earth might collapse, split, or become overlapped). If any of the students adopt the wrong posture, they are told to dance in the right posture again and again until they can recognize the right posture.



Students enjoy earthquake dances to help them learn to recognize ground characteristics.

To develop children's prevention skills and raise their awareness of earthquake hazards, the EIG also has children play a digital animated game called "High Rise, High Risk" before they are subject to a final earthquake simulation test.

With several colorful cartoon scenarios, the animated high-rise game challenges the players, who play the role of high-rise building residents, to find three places to seek safety during an earthquake. Without the correct answer, the player will not be allowed to proceed to the next step to get further information.

Finally, the participants will be challenged with a test that includes simulated shaking, and they will have to make a decision about a safe place to survive. The team that accumulates the most points in each stage of the EIG is the winner. Because it provides a lighthearted context with no fear arousal, the EIG will be able to effectively enhance the earthquake preparedness skills of all participants.



This animated game teaches survival skills in a way that allows all participants to enjoy developing their earthquake preparedness skills.



After learning and practicing seismic response activities, the students will gradually be able to make their own decisions about the safest places to survive an earthquake.