

Abstract

Urban Gaming-Simulation for Community-Based Solid Waste Management is a tool of urban planning for raising people's awareness in complicated information systems on social change, particularly, environmental problems and global warming crisis effects on people and community.

The study intends to transfer knowledge and understanding to young people regarding environmental concerns. The four main objectives begins with firstly to analyze problems and causes of solid waste in housing projects of low-income communities in walk-up apartments; secondly to analyze related results of survey for preparedness for urban gaming- simulation; thirdly to create a model of community-based solid waste management to pass on knowledge of community-based solid waste management to young people; and finally, to propose a measurement of community-based solid waste management in walk-up apartments. The research method comprised the document related with various game types, solid waste problems and so on, a field survey, interviews and questionnaires. Moreover, an experiment and practice game were conducted in the community and were tested for two times to develop gaming-simulation for the appropriate model to transfer knowledge and understanding to young people in housing projects of low-income community in walk-up apartments.

The research found two main issues that the key assets of solid waste management in case study have managed the waste disposal by combining trash in one bag without prior separation and releasing it into a chimney as junk and the mostly wet garbage. This trash stink annoyed the nearby rooms. Also, there is no participation in the waste management of the community that causes more troubles due to lack of knowledge-based management and understanding in community-based solid waste management. The research experiment in urban gaming-simulation help increases learning and knowledge-based management about solid waste management because the game can create understanding about solid waste and create enjoyment for young people. In addition to offering guidance to community-based solid waste management for youth people (such as separation of garbage before disposal, reuse and recycle for sales, etc.), the rule of the game, the role of players and the simulation have raised the level of people's awareness in solid waste management. Furthermore, the young people will be able to guide a family member how to solve solid waste problems that will eventually lead to holistic approach of community-based management.