Standardized education program for disaster is insufficient in course of study in Japan. We developed education program for enhancement of disaster management competency of "high school students" who can be helpful to local residents in disaster responses. About the development, we adopted the ADDIE model (Analyze→Design→Develop→Implement→Evaluate process) to design education program efficiently using the concept of Learning Objects [LOs].

Our education program is effective because all LOs are completed.

**Background • Purpose (Analyze)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Number of Students</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st period</td>
<td>9 students</td>
<td>May 28, 2014</td>
</tr>
<tr>
<td>2nd period</td>
<td>11 students (two more students)</td>
<td>June 18, 2014</td>
</tr>
</tbody>
</table>

**Lessons (Implement)**

- **1st period**: Using of crossroad
  - To encourage various problems and solutions
  - To encourage to understand relationships between problems and solutions

- **2nd period**: Using PEM
  - To encourage to understand relationships between problems and solutions
  - (In our case) Learners consider problems and solutions about “sleeping” (basic activity in life) in emergency shelter.

**Evaluation about achievement of LOs in 1st period**

- **Awareness (problems)**: 9 students, on May 28, 2014
- **Action (solutions)**: 11 students (two more students), on June 18, 2014

**Evaluation about achievement of LOs in 2nd period**

- **Awareness (problems)**: 27.3%
- **Action (solutions)**: 36.4%
- **Reconsilience**: 63.6%
- **Anxiety**: 27.3%
- **Noise Bedding**: 33.3%
- **Noise life**: 25.0%
- **Anxiety**: 18.2%
- **Bedding**: 11.1%
- **Sleeping**: 66.7%
- **Importance**: 36.4%
- **Understand**: 66.7%
- **Understand**: 54.5%
- **Recognize**: 77.8%
- **Understand**: 88.9%

**Results (Evaluate)**

- **Evaluation of 1st period**: Almost of learners wrote about all LOs on reflection sheets. Therefore, learners could image disaster area specifically.

- **Evaluation of 2nd period**: There were descriptions about “Awareness (problems)” and “Action (solutions)” regarding all factors interfering “sleeping”. PEM led “Awareness” to “Action”.

**Implement**

In 1st period, students learned difficulty of consensus building. In 2nd period, students understood big differences between daily life and disaster life.

**Design**

This program consists of two periods and has Learning Purpose and Learning Objects [LOs].

- **Learning Purpose**
  - To awake disaster victims can’t behave in the same way as daily life
- **1st period Learning Objects**
  1. To image disaster area specifically
  2. To understand importance of consensus building
- **2nd period Learning Objects**
  1. To develop competency to image various problems and to consider solutions from various angles
  2. To consider “sleeping”; it is not difficult in daily life but it is difficult in emergency shelter

**Develop**

**Problem-solution Enumeration Method** [PEM] (Develop)

- 1st period: Using of crossroad
- 2nd period: Using PEM

**Take here (Japanese ver.)**