

School behavior in the 2011 off the Pacific coast of Tohoku Earthquake in the northern part of Miyagi Prefecture

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1. Introduction

The purpose of this study is to define what we should do in schools when attacked by strong ground motion. Mainly, inquiry of what schools should have prepared for earthquakes and what they should prepare at present, including viewpoints of school education under normal conditions and safety education, were investigated.

For these reasons, this survey was conducted in primary and lower secondary schools, located northern part of Miyagi Prefecture, which suffered from forceful ground motion in the 2011 off the Pacific coast of Tohoku Earthquake (hereafter 3.11eq).

2. Investigation

55 and 20 municipal primary and lower secondary schools were targets of the investigation, respectively. These schools are located in Osaki District, including in Osaki City, Wakuya Town, Misato Town, Shikama Town and Kami Town, of Miyagi Prefectural Board of Education. Almost all region of this district were recorded JMA's seismic intensity between five lower and six upper according to the estimated seismic intensity distribution by JMA(2011).

The questionnaire survey was carried out for all the principals in the Osaki District at the meeting of Principals' Association held on August 19, 2011. 75 sheets of ones were prepared, and 66 ones were submitted to us, as some principals were absent from the meeting that day. All 66 sheets were valid responses, and response rate was 100 percent.

The questionnaire surveys consist of 47 Multiple Choice Questions and 11 Short Answer Questions. It was mainly made up by following four categories;

1) Before 3.11eq

the situation of education for disaster prevention, and preparation of emergency supplies for post-disaster

2) The day of 3.11eq

school behaviors at the occurrence of the strong ground motion

3) After the 3.11eq

progresses until resuming classes at schools

4) Considerations in school education

through 3.11eq experiences, ideal education for an earthquake learning, and educational reviews to prevent disasters

3. The results of questionnaire surveys and its discussion

According to the survey, most characteristic results and its discussion are as bellow;

- BOUSAI ZUKIN, which is roughly safety hoods, and/or disaster-preventive helmets at schools, approximately 80 percent of them had not prepared them at all.

As the schools in Osaki District ever experienced strong ground motion by Iwate-Miyagi Nairiku Earthquake in 2008, it was naturally expected that most schools, especially primary schools, must have prepared BOUSAI ZUKIN and/or disaster-preventive helmets, which has been already furnished schools in Shizuoka and Kanagawa Prefectures. This result shows that those safety items need to be prepared for strong ground motion by sudden earthquakes at schools nationwide.

As the result of asking future involvements in Short Answer Questions, almost schools recognized the necessities of reviewing schemes for education for disaster prevention, and also their complementary safety education, including emergency evacuation practices as special activities. On the other hand, a quarter of them only acknowledge the necessity of enhancing earthquake education in a subject of RIKA, which is roughly a subject of natural science.

Several other characteristic results are as below;

- Approximately five percent of schools had never carried emergency evacuation practices for earthquake.

- The usage of school broadcasting equipment at schools immediately after the earthquake, approximately 90 percent of them could not use their appliances, including emergency broadcasting systems.

4. Conclusions

Many valuable findings, through school's experiences by 3.11eq, were provided. Remaining problems to be solved in this study will be proposed how countermeasures should be reflected on school education near future.

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