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Implementation and Practices of the Comprehensive School Safety Framework: Views of Senior High School Students

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Abstract

It is the directive for Department of Education (DepEd) to implement Disaster Risk Reduction and Management (DRRM) in Basic Education based on the Comprehensive School Safety Framework (CSSF). This study assessed the views of senior high school students on the implementation and practices of the three pillars of CSSF. Ninety (90) Grade 12 students were randomly selected to answer a five-point Likert scale survey questionnaire. Findings show that students consider their school as evidently safe on its location, have resilient design and construction with regular repairs, and highly evident on conducting regular inspection and maintenance. Students consider disaster risk management practices as highly evident in schools specifically contingency planning, providing first aid kits, conducting school maintenance programs, establishing early warning system, and creating evacuation plans and procedures. Moreover, capacity building activities conducted by the school are highly recognized by the students as part of disaster resilience education. Data also show that DRRM is evidently learned in the curriculum of some subjects and through educational materials. In conclusion, safe learning facilities, disaster risk management, and risk reduction and resilience education are evidently prioritized or practiced in senior high school based on the assessment of students**.**

Keywords: comprehensive school safety framework (CSSF); safe learning facilities; disaster risk management; risk reduction and resilience education; senior high school

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Introduction

Disaster is an important issue and problem in a global scale (Cadiz et al., 2018). Many countries are devastated by natural disasters in recent years, and many human and animal lives are affected and man-made structures are destroyed (Menon et al., 2016). Based on United Nations Office for Disaster Risk Reduction (UNISDR), disaster is defined as a serious disruption or disturbance of the functioning of a community or a society at any level or scale due to the presence of a hazard that interacts with the elements of exposure and vulnerability and the state of capacity, which leads to significant losses and devastating impacts.

A natural hazard can be classified as geologic, hydrologic or meteorological phenomenon that has the potential to inflict harm or loss. A natural hazard becomes a natural disaster if its occurrence made an impact to communities causing damage, loss, disruption, and fatalities, which disabled the affected to function in a normal state. Losses caused by disasters are classified into three, which are direct, indirect, and intangible (Petrucci, 2012). Direct losses are the physical effects that include death and injury of people, and damages or destructions to infrastructures and other properties. Indirect losses include disruption and adverse effects to local business and utility services. Intangible losses, on the other hand, are psychological effects suffered during the occurrence of the disaster.

Based on records, each year, there are thousands of casualties and loss of billions of dollars caused by natural hazards that include drought, floods, and earthquakes (Galindo et al., 2014). In recent years, there is an increase of the occurrence of natural disasters reported worldwide. The increasing incidence of natural disasters is strongly correlated to the heightening vulnerability of families and communities, most especially in developing countries (Oreggia et al., 2008). Vulnerability is a very important concept in understanding the impacts of disaster. This concept is an indicator of limitations or inadequate access to available resource of the affected community or society. The external aspects of vulnerability indicates the level of intensity of the experienced disaster, whereas internal aspects of vulnerability refers to the recovery or the coping potential of the affected after the disaster. Vulnerability can be classified into different types that include physical, psychological, social, political and economic. All types exemplify the various impact of disaster (Bradshaw, 2004).

Losses caused and brought by disasters are increasing globally. Records show that each year between 2000 and 2005, there were an average of 240 million people around the world that have been affected by natural disasters. Moreover, with the same period of years, there were an average of 80,000 deaths and an estimated US$ 80 billion of damage cost. These losses are attributed to many factors such as depletion or over-exploitation of natural resources, population growth, recurrent extreme weather conditions and events, and agricultural activities that impose risk such as conversion of forest to agricultural lands (Baas et al., 2008).

Developing countries, like the Philippines, are more vulnerable to disaster risks. The Philippines ranked third among countries vulnerable to disaster risks (Galindo et al., 2014; Mamon et al., 2017). The geographical location of the Philippines is the reason making it a disaster-prone or at-risk country. It is located at the western rim of the Pacific and along the Pacific Ring of Fire (Llanto, 2011). Based on reports, the Pacific region has the highest frequency of disasters (Djalante, 2018). The Philippines experienced various natural disasters such as earthquakes, volcanic eruptions, droughts, storms, and typhoons (Llanto, 2011). The estimated average annual loss of the Philippines due to multiple hazards is US$ 7.893 million, which has the equivalence to 69% of the national expenditure (Alcayna et al., 2016). An estimated 81.3% of its population are affected, and an estimated 50.3% of its total area is exposed to natural disasters (Galindo et al., 2014).

With these scenarios, concerns, and problems in the Philippines, its government recognize the significance of strengthening disaster risk reduction and resiliency from the national scale down to the barangay level. The Fourteenth Philippine Congress enacted and passed Republic Act no. 10121 or the Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010 that was formally signed by Pres. Gloria Macapagal Arroyo on May 27, 2010. This is an Act that strengthens the Philippine disaster risk reduction and management system by providing a national DRRM Framework and Plan. This law upholds the rights of the people to life and property by focusing on the major causes of disasters in the Philippines, and by establishing an efficient national capacity for DRRM. Furthermore, this Act implements international standards of DRRM on the national, regional, and local levels of government institutions. With these provisions on RA 10121, the National Government and the local government units (LGUs) plan and apply principles, strategies and policies for disaster preparedness, mitigation, prevention, response, recovery, and rehabilitation.

This action by the Philippine Government in enacting a law that strengthens DRRM is a response to the objectives of the Second World Conference on Disaster Reduction which adopted the Hyogo Framework for Action (HFA) that was held on January 18 to 22, 2005 at Kobe (Hyogo), Japan (Lwin & Maung, 2011; Calde, 2013; Tuladhar et al., 2015). HFA is a 10 year plan from 2005 to 2015 that strengthens and enhances disaster resiliency of nations and local communities. This plan promotes strategies and approaches in lessening the impacts of disasters. This plan also establishes a culture of safety and resiliency in communities through the integration of education and innovation (Tuladhar et al., 2015).

After the adoption of the Hyogo Framework for Action (HFA), Sendai Framework for Disaster Risk Reduction was adopted and implemented by nations who participated at the Third United Nations World Conference on Disaster Risk Reduction (DRR) held from March 14 to 18, 2015. This framework will serve as a guide for 187 countries for 15 years from 2015 to 2030 (United Nations, 2015; Banwell et al., 2016). This framework has seven DRR global targets that include lower or reduced mortality rate, number of casualties, economic losses, property damages, and an improved available multi-hazard early warning system for every country or community.

Children are the most vulnerable and at-risk to natural and human-induced hazards, which makes a Child-Centered Disaster Risk Reduction as a top priority in the United Nations Framework for Disaster Risk Reduction in March 2015 (National Disaster Management Authority - Government of Pakistan, 2017). To save the lives of children, and to lessen damages in infrastructure and investment costs in schools or educational institutions, countries started the implementation of school safety guidelines that follow the objectives and standards of the global declarations and frameworks, specifically Hyogo Framework for Action (HFA) and the existing Sendai Framework in disaster risk reduction. This global framework is the Comprehensive School Safety Framework (CSSF) (Lim et al., 2016).

CSSF has the following goals: the protection of students and teachers from death, injury, and harm in schools; the consistent access of students to education despite of all anticipated natural and human-made hazards; the protection of the education sector investments; and the enhancement of student's capacity of disaster risk reduction and resiliency through education. The three pillars of the Comprehensive School Safety Framework that must be addressed at national down to the school levels are as follows: Safe Learning Facilities, School Disaster Management, and Risk Reduction and Resilience Education. The main purpose of this global framework is to reduce disaster risks to education sector. The Comprehensive School Safety is aligned with the Sendai Framework for disaster risk reduction, and with the Sustainable Development Goals 2015 - 2020 (The United Nations Office for Disaster Risk Reduction and Global Alliance for Disaster Risk Reduction & Resilience in the

Education Sector, 2017).

In the Philippines, Department of Education (DepEd) started to integrate disaster risk reduction (DRR) in schools since 2007. Programs and projects in DRR are implemented in the basic education sector through the DRR and Management Office (DRRMO). The school DRRMO plans, implement, coordinate, and monitor activities related to all the programs indicated in RA 10121 such as Disaster Risk Reduction and Management (DRRM), Education in Emergencies (EiE), and Climate Change Adaptation (CCA). In 2015, to focus on the objectives of the Sendai Framework in DRR, DepEd implemented the Comprehensive DRRM in Basic Education Framework. This framework follows the purpose, goals, three pillars, and key responsibilities stated in the global Comprehensive School Safety Framework and the four thematic areas of RA 10121. Aside from developing and implementing the Comprehensive DRRM in Basic Education Framework, and establishing DRRMO from national to school-based level, DepEd integrates DRR and CCA in the basic education curriculum, which is from Kinder to Senior High School (SHS) (Lim et al., 2016).

Senior High School level (SHS) is recently added to the basic education in the Philippines mandated by Republic Act 10533, also known as the Enhanced Basic Education Act of 2013, which created the K-12 Basic Education Curriculum (Sarmiento & Orale, 2016; Estonanto, 2017). Senior High Schools are now implementing education sector policies and plans for disaster risk reduction and management indicated in CSSF. Although newly established in the basic education level, specifically in 2016, SHS institutions ensure safe learning facilities, execute efficient school disaster management, and provide capacity building for students and teachers on risk reduction and resiliency.

This study investigated the implementation and practices of the global Comprehensive School Safety Framework (CSSF) in senior high school based on views of students. Currently, there are no research studies that were conducted indicating any evaluation on the establishment or application of the policies and guidelines of CSSF in K-12 schools, more specifically in SHS. This study will serve as the basis on how CSSF is followed and integrated in the system and policies of the education sector. It will reflect on how school administrators or managers, teachers and staff, and the DRR Coordinator prioritize, develop, promote and implement the key responsibilities or indicators on each pillar of CSSF. Moreover, institutionalizing CSSF will show the strong commitment of education sector in the Philippines on the goals or objectives of the Sendai Framework for DRR and the Sustainable Development Goals 2015 – 2020.

Students were asked in this study, because they are being protected by the global frameworks. They are the most vulnerable during disasters or threats, therefore they are in need of a safe school guided by effective school disaster management, and they are prioritized to enhance their knowledge on disaster awareness, preparedness and resiliency. The views of the students are important evaluation on the implementation of CSSF, because they are target beneficiaries of the policies, programs, projects, and activities of schools aligned in disaster risk reduction and management. Furthermore, the views of senior high school students on the school practices of CSSF are based on their observations and experiences on how their school materializes the content of the global framework.

Purposes of the Study

The objective of this research is to assess the views of senior high school students on the implementation and practices of the Comprehensive School Safety Framework (CSSF). Specifically, this study attempted to answer the following questions:

1. How evident is safe learning facilities prioritized in school?
2. How evident is disaster risk management practiced in school?

3. How evident is risk reduction and resilience education integrated in the curriculum and in other school activities?

Research Methodology

Implementation of the Comprehensive School Safety Framework (CSSF) in Senior High School

Senior High Schools in Division of City Schools – Las Piñas adopted the CSSF in 2017, and in the following year, schools were assessed using the CSSF monitoring tool that contain indicators based on DepEd's DRRM policies. The School Disaster Risk Reduction and Management (SDRRM) Committee or Council responded to this directive, and progressively implemented the indicators stated in support for the three pillar of the global framework. Action plan was made by the SDRRM Coordinator with the help of the SDRRM Team to carry out CSSF, wherein this plan consists of the areas of concern, objectives, strategies/activities, persons involved, source of fund, time frame, and success indicator. At the end of the school year, since 2017 to 2018, remarks were stated to indicate an objective successfully targeted or poorly prioritized by the school.

Research design and Participants of the Study

This research used a cross-sectional study design wherein it attempts to assess the views of senior high school students on the implementation and practices of the three pillars of the CSSF. This study involved ninety (90) Grade 12 students in a senior high school in Las Piñas City. The students were randomly selected to obtain 90 respondents.

Data Gathering Instrument

A survey questionnaire was given to the respondents of this study. The questions were adopted from DepEd Disaster Risk Reduction and Management Service (DRRMS) Comprehensive School Safety (CSS) Monitoring Tool Indicators, which are based on DepEd's DRRM Policies and School DRRM Manual. This monitoring tool is aligned with the targets and key responsibilities indicated in the global Comprehensive School Safety Framework (CSSF) created and developed by UN International Strategy for Disaster Reduction (UNISDR).

The survey questionnaire is divided into three parts which indicate the three pillars of the CSSF namely Safe Learning Facilities (Pillar 1), Disaster Risk Management (Pillar 2), and Risk Reduction and Resilience Education (Pillar 3). The respondents evaluated five (5) indicators in Pillar 1, ten (10) indicators in Pillar 2, and five (5) indicators in Pillar 3. Indicators that are only applicable to be answered by the students were included in the survey questionnaire. Any indicators that only involve teachers and other school personnel were omitted in the survey questionnaire.

A five-point Likert scale (5 = Highly Evident; 4 = Evident; 3 = Moderately Evident; 2 = Slightly Evident; and 1 = Not Evident) was used to assess the responses of senior high school students on different indicators in the comprehensive school safety monitoring tool.

Data Analysis

Statistical mean and standard deviation were computed using Microsoft Excel to descriptively analyze the results of the survey questionnaire. The assessment of students on each indicator of the CSSF was presented using mean ratings that have corresponding descriptive values and equivalents based from the modified categorical description shown in the study of Camacho (2012). Table 1 presents the categorical description of the mean ratings in the five-point Likert scale survey.

Table 1. Categorical Description of the Mean Ratings

Description	Mean Rating
Highly Evident	4.51 – 5.00
Evident	3.51 – 4.50
Moderately Evident	2.51 – 3.50
Slightly Evident	1.51 – 2.50
Not Evident	1.00 – 1.50

Results and Discussion

Table 2 shows the assessment of senior high school students on the implementation and practices of the Comprehensive School Safety Framework (CSSF) ensuring safe learning facilities. It is highly evident that school buildings and facilities are regularly inspected and maintained. Other indicators for a safe learning facility are evident to students, specifically a safe school site or location, school buildings with resilient design and construction, and have undertaken regular repair of minor damages in classrooms

Table 2. Indicators for Safe Learning Facilities (Pillar 1)

Indicators	Mean	SD	Description
1. School campus has a safe site or location	4.41	0.62	Evident
2. School buildings have resilient design	4.16	0.65	Evident
3. School buildings have resilient construction	4.01	0.74	Evident
4. School buildings have undertaken regular repair of minor classroom damages	4.42	0.67	Evident
5. School buildings have regular inspection and maintenance of facilities conducted	4.64	0.55	Highly Evident

The teaching and learning process in school is positively affected by the condition of school facilities. Therefore, it is necessary to conduct assessment on the conditions of school facilities in order to recommend strategies and plans on how to improve and develop school facilities. It has great impact on the academic performance of students, and the effectiveness of the teacher as well (Ibrahim et al., 2016). The great importance of school facilities is highly emphasized in the Comprehensive School Safety Framework, not only considering effective teaching and conducive learning environment, but also prioritizing schools as safe environment for learners in general. The physical environment of schools or academic institutions primarily contributes to the safety of students. Moreover, students who feel safe in schools are more motivated or interested for learning (Schneider, 2002).

Safe learning facilities refer to the physical structure and other physical components of the school. Based on DepEd Order (DO) 37 s. 2015, selecting a safe school site, designing, constructing and maintaining safe school structures must be undertaken by education officials, engineers, architects, builders and other stakeholders. Students evidently observed and perceived safe learning facilities in this research study maybe because of the prioritization on education facilities by school officials, personnels and other stakeholders. Primarily, the physical structure and design of the school buildings or facilities are resilient to withstand imminent disasters. Students in this study recognized these indicators as evident or highly evident in school, because of their active participation to student-led school watching and hazard mapping. The learners identify firsthand the actual condition of the school environment and any hazard that can inflict danger. This DRR activity is an initial step for learners to prevent and mitigate the effects of disasters and to be prepared for disaster risks.

As stated in the school disaster risk reduction and management manual of Department of Education, the following physical features are key indicators that a school is safe: accessibility of

school to all; adequate safe drinking water and sanitation facilities; presence of visible boundaries and clear signs in the learning environment; adequate space at the school grounds; standard class spacing and seating arrangements; access routes to school and learning environment are free from danger and threat; and the school location is near to the target learners it must serve (Disaster Risk Reduction and Management Service – Department of Education, n.d.)

Indicators for disaster risk management, Pillar 2 of CSSF, are shown in Table 3. Responses show that the availability of contingency plan, adequate first aid kits in every classroom, evacuation plan and procedures are highly evident to students. Moreover, the active implementation of *Brigada Eskwela* (School Maintenance Program), and the active participation in LGUs' DRRM activities are also highly evident to students. Other indicators are evidently observed, known or experienced by the students.

Table 3. Indicators for Disaster Risk Management (Pillar 2)

Indicators	Mean	SD	Description
1. School has a contingency plan (preparedness plan) turned into response actions when a disaster strikes	4.69	0.51	Highly Evident
2. School has available, accessible, and adequate first aid kit in every instructional classroom	4.69	0.57	Highly Evident
3. School has necessary and functioning equipment in case of disaster	4.38	0.66	Evident
4. School has trained disaster risk reduction and management (DRRM) personnel to administer first aid to students and other personnel	4.46	0.62	Evident
5. Conducted *Brigada Eskwela* (School Maintenance Program) to ensure school safety and preparedness measures	4.84	0.36	Highly Evident
6. School has established functional early warning system to inform students and personnel of hazards and emergencies	4.48	0.64	Evident
7. School conducted regular hazard-specific drills with participation of stakeholders (BFP, LGUs and others)	4.50	0.66	Evident
8. School has an evacuation plan and procedures	4.56	0.66	Highly Evident
9. School has a student-family reunification plan that is clearly disseminated to students, teachers, and parents	3.94	0.74	Evident
10. School participated in the different DRRM activities of the Local Government Unit (LGU)	4.60	0.54	Highly Evident

The 2nd pillar in CSSF encourages schools to establish a solid organization that will support the operationalization of disaster risk reduction and management. Schools are reminded to establish a DRRM Council led by a DRRM Coordinator. This organizational support must be focused on the four thematic areas of the Comprehensive DRRM in Basic Education Framework which include prevention and mitigation, preparedness, response, and recovery and rehabilitation. The management indicated in Pillar 2 refers to the responsibility of teachers, non-teaching personnel, community members and other stakeholders to ensure school safety and of the entire community (Disaster Risk Reduction and Management Service – Department of Education, n.d.)

An SDRRM Team will be organized and activated to implement, monitor, and report any initiatives, activities, projects and plans for school disaster management. This team ensures DRRM is incorporated or integrated in the systems and policies of the school. The team also responds to the issues and concerns regarding DRRM. The SDRRM team has a big task to promote and develop a functional school disaster management. It is necessary that the team received a capacity building support, which must be indicated in the School Improvement Plan (SIP). This involves partnerships with other organizations that can conduct trainings related to DRRM (Disaster Risk Reduction and

Management Service – Department of Education, n.d.)

In this study, disaster risk reduction and management is evidently practiced in school. The academic institution has focal persons, which are members of the SDRRM Team or Council that ensures a safe learning environment by identifying the hazards present in the school. This identified risks will be the basis of developing a plan of actions that encompasses safety guidelines concerned in physical, social, psychological, and environmental aspects of the educational institution. School disaster management involves national, regional and local educational authorities and administrators in collaboration with authorities from LGU with jurisdiction in DRRM.

Key responsibilities in school disaster management, which are evidently implemented, are the following: establish school-based contingency plans to support education continuity; form school-based committees that are focused to the comprehensive DRRM in Basic Education Framework; train and develop the skills of DRRM committee or team members; provide a school-based multi-hazard assessment and plan as basis for disaster prevention and mitigation, and preparedness activities; conduct school-wide hazard mapping; conduct school-wide and community-based simulation drills as basis for evaluating response preparedness; include persons with disability (PWD) in disaster preparedness plans; institutionalize disaster management policies and plans in local or school level; create a school-based early warning systems effective for a particular hazard; make standard operating procedures that will be activated during a disaster; and promote peace-building in school.

These key responsibilities in Pillar 2 promote the important elements of disaster risk management framework. One element is disaster risk reduction continuum, which focuses on hazard and risk assessment, preparedness, prevention and mitigation, early warning, and continuous development activities. The other elements are immediate disaster response and post-disaster to continuum (Baas et al., 2008). This general framework of disaster risk management once applied in schools or educational sectors are now specifically aimed at the protection of students and school personnel from harm, ensure educational continuity for all children, and promotion and development of culture of safety (International Finance Corporation – World Bank Group, 2010).

Table 4 shows the responses of students on the implementation and practices of risk reduction and resilience education in school. It is highly evident that DRRM capacity building activities are provided and conducted for students. It is evident that there is an active participation in DRRM activities, the school has DRRM materials, DRRM room or office with IEC materials, and students encountered disaster risk reduction and resilience topics in their academic subjects.

Table 4. Indicators for Risk Reduction and Resilience Education (Pillar 3)

Indicators	Mean	SD	Description
1. School has DRRM capacity building activities (trainings and seminars) for students	4.54	0.62	Highly Evident
2. Students actively participate in DRRM activities	4.19	0.76	Evident
3. School has available and accessible quality and up-to-date DRRM Materials	4.22	0.72	Evident
4. Presence of DRRM corner, room or office, with updated information, education, and communication (IEC) materials	4.20	0.74	Evident
5. Topics and information about disaster risk reduction and resiliency are encountered and learned in academic subjects	4.34	0.74	Evident

Hyogo Framework and Sendai Framework emphasize the role of education in disaster preparedness. Education helps people in managing risk before the incidence of a disaster rather than

managing a disaster as it occurs. Therefore, education plays a vital role in developing knowledge, abilities or skills, and attitudes essential for disaster risk reduction, and resilience. It is recommended that across the curriculum, DRR is integrated and must be an important experience-based learning in schools. The approach involves a national curriculum about DRRM but with an emphasis on managing disaster risks in the localities or communities (Vaughter, 2016). As an application, students are educated or informed about disaster risk reduction that can be applied on their own residential or school community.

The key responsibilities in Pillar 3 are the following: immerse students and school personnel in disaster risk reduction and management activities; develop competencies and learning outcomes in the formal curriculum that highlight disaster risk reduction and management; address all aspects of DRRM through quality and efficient teaching, and learning materials for students; and create strategies that integrate DRRM in non-formal approaches that involve the community. The persons involve in risk reduction and resilience education are the teachers or educators, trainers, and curriculum and educational materials developers.

Risk Reduction and Resilience education is very timely, because of its integration in the K-12 Curriculum. Aside from formal education, some co-curricular activities in schools involve DRRM. Students learn DRRM in specific topics discussed or covered in subject areas such as science and social science. In SHS, students encounter DRRM in Earth and Life Science, a core subject, and in a specialized subject Disaster Risk Reduction and Readiness. Competencies do not only cover basic concepts or information about a particular hazard or disaster, but these also cover the four thematic areas in DRR which are more practical and needed by the students. Competencies involve performance tasks or activities for DRRM such as poster making, slogan and essay writing contests, hazard mapping, multihazard drills, clean-up drive, and waste management which are complements that enhance learning. Furthermore, education about disaster risk reduction and resiliency is supported and improved by creating effective learning materials. Students gain information not only from books, but also from information, education, and communication (IEC) materials that explain hazards and the comprehensive disaster risk reduction and management.

Conclusion and Recommendations

The key responsibilities of school in the Comprehensive School Safety Framework (CSSF) that include safe learning facilities, disaster risk management, and risk reduction and resilience education were successfully implemented or practiced based on the evident or highly evident remarks or evaluation of senior high school students. The findings of this study is the first report that shed light on the compliance of a school in locally implementing this global framework.

For future researches, this study highly recommends assessments of division or region-wide implementation of CSSF that will not only include Senior High Schools, but as well as Elementary and Junior High Schools. It is suggested that teachers, other school personnel, and stakeholders will also be the respondents, because these people also directly observe or experience the implementation of this framework aside from the students. Researches that will draft school policies that support or enhance the implementation and practice of the three pillars of CSSF are also highly recommended.

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