

Research Paper



Perceptivity of UMPC on disaster programs: a quantitative inquiry

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ABSTRACT

This study evaluates the profile of UM Panabo College (UMPC) in terms of its building structure, disaster preparedness plan, and safety facilities, and determines how aware students and staff are of the school's existing preparedness programmes, as a basis for an action plan. A quantitative, non-experimental, descriptive-evaluative research design was used to assess the institution's disaster preparedness, with survey data from 74 first-year BSBA-FM students and 28 school personnel. The findings show that the disaster preparedness programme of UM Panabo College is regularly carried out and that students and personnel are very much aware of and strongly satisfied with it; however, the low proportion of respondents who reported the availability of an emergency vehicle indicates a need for one to serve students and staff in times of disaster.



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1. INTRODUCTION

The Philippines, situated in the typhoon belt of the western Pacific Ocean, is exposed to a range of natural hazards, including earthquakes, volcanic eruptions, and tropical cyclones; disasters, whether natural or man-made, can kill people and destroy property. Around one-third of the world's tropical storms form in this region [1]. The Philippines was ranked first among 193 countries, with the highest disaster risk in the world, in the WorldRiskIndex 2022, which considers the likelihood of earthquakes, typhoons, and floods [2], and a 2014 Commission on Audit report found that the country performs poorly in disaster management [1]. Strengthening resilience to climate-related hazards is an urgent target under Sustainable Development Goal 13 [3].

Disasters can severely disrupt communities, causing casualties as well as financial, environmental, social, and economic losses. Of the five priorities for action identified for reducing disaster risk, the third is to use knowledge, innovation, and education to build a culture of safety and resilience; people must be well aware of the need for a culture of prevention and resilience, and knowledge about risks, vulnerabilities, and capacities should be prioritized, especially for the more vulnerable [4]. Teaching students about disaster preparedness empowers them to think creatively and with knowledge, and their enhanced awareness of the environment enables them to respond with appropriate solutions to any eventuality [5]. Because disaster preparedness education can take a problem-based learning approach that incorporates real-life scenarios, it broadens students' perspectives and strengthens their awareness of and resilience to disasters [6], [7]. In this study, disaster preparedness is used to gauge students' knowledge and readiness before, during, and after a disaster.

Disasters may be man-made or natural; natural disasters include floods, geological events such as volcanic eruptions, earthquakes, and landslides, and climatic or meteorological events [3]. They are an inescapable part of life and a complex global issue, can happen anywhere and at any time, with consequences ranging from property destruction to fatalities, and their frequency is rising.

This study sought to answer the following questions: (1) What is the profile of the school in terms of existing safety facilities, disaster preparedness plan, and building structure? (2) What is the level of awareness of students and personnel of the existing preparedness programmes? (3) To what extent is the disaster preparedness programme implemented? (4) What is the degree of satisfaction of the respondents with the implementation of the programme? (5) What action plan can be undertaken based on the findings?

2. METHOD

2.1 Participants

The respondents were first-year BSBA-FM students and personnel of UM Panabo College, Panabo City: 74 BSBA-FM students (sample determined at a 95% confidence level) and all 28 UM Panabo College personnel.

2.2 Research Instrument

The main data-gathering instrument was a survey questionnaire adapted from Tan [8], "Disaster Preparedness of National High Schools: An Assessment," designed to assess the disaster preparedness of UM Panabo College.

2.3 Design and Procedure

A quantitative, non-experimental, descriptive-evaluative research design was used to evaluate the institution's disaster preparedness. The goal of evaluation research is to determine whether a programme or institution is successful in relation to its stated objectives [9]. The researchers sent a letter to the school director requesting permission to conduct the study, a letter to the Records and Admission Center to obtain the complete list of first-year BSBA-FM students, and a letter to the Human Resource Management Department requesting the total number of UMPC personnel. The data were summarized, interpreted, and presented as frequencies, percentages, and weighted means.

3. RESULTS AND DISCUSSION

3.1 Profile of the School

Table 1. Profile of UM Panabo College: Students' Responses (N = 74)

Profile of the School	Item	Frequency	Percentage (%)
Safety facilities	Fire hydrant	48	64.86
	Fire hose	61	82.43
	Fire extinguisher	71	95.95
	Medicine kit	66	89.19
	Alarm system	65	87.84
	Emergency vehicle	36	48.65
	Evacuation site	59	79.73
	Floor plan showing the evacuation area	53	71.62
	Building exits	58	78.38
	Emergency communication system	51	68.92
	Smoke alarms	54	72.97
Disaster preparedness plan	Fire drill	70	94.59
	Earthquake drill	71	95.95
	First aid training	61	82.43
	Safety seminar	62	83.78
Building classification	Wood	32	43.24
	Semi-concrete	58	78.38
	Concrete	38	51.35
Building type	Single storey	57	77.03
	Progressive type	33	44.59

Table 1 shows students' perceptions of the availability of UM Panabo College's safety facilities, disaster preparedness plan, and building structure, based on responses from 74 first-year financial management students. It presents the frequency and percentage of students who reported that facilities such as fire hydrants, fire hoses, fire extinguishers, alarm systems, emergency vehicles, evacuation sites, floor plans showing the evacuation area, smoke alarms, building exits, and emergency communication systems are available [8].

Table 2. Profile of UM Panabo College: Personnel's Responses (N = 28)

Profile of the School	Item	Frequency	Percentage (%)
Safety facilities	Fire hydrant	18	64.29
	Fire hose	22	78.57
	Fire extinguisher	27	96.43
	Medicine kit	25	89.29
	Alarm system	24	85.71
	Emergency vehicle	8	28.57
	Evacuation site	24	85.71
	Floor plan showing the evacuation area	24	85.71
	Building exits	23	82.14
	Emergency communication system	19	67.86
	Smoke alarms	24	85.71
Disaster preparedness plan	Fire drill	27	96.43
	Earthquake drill	27	96.43
	First aid training	23	82.14
	Safety seminar	25	89.29
Building classification	Wood	16	57.14
	Semi-concrete	24	85.71
	Concrete	15	53.57
Building type	Single storey	57	77.03
	Progressive type	33	44.59

Table 2 presents the corresponding responses of 28 UM Panabo College employees on the school's safety facilities, disaster preparedness plan, and building structure. The percentages in Tables 1 and 2 are similar, showing that staff and students share the same observations and perceptions of the school's safety facilities. Teaching students about disaster preparedness encourages critical and knowledge-based thinking, heightening their sense of their surroundings and their ability to respond appropriately in any situation [10].

3.2 Level of Awareness of Existing Preparedness Programmes

Table 3. Level of Awareness of the Existing Preparedness Programmes

Programme	Students: Mean	Students: Interpretation	Personnel: Mean	Personnel: Interpretation
Conducting fire drill	4.73	Very much aware	5.00	Very much aware
Conducting earthquake drill	4.70	Very much aware	5.00	Very much aware
Conducting safety seminar	4.62	Very much aware	4.64	Very much aware
Conducting first aid training	4.72	Very much aware	4.96	Very much aware
Conducting orientation on safety	4.72	Very much aware	4.93	Very much aware

Legend: 4.21–5.00, very much aware; 3.41–4.20, moderately aware; 2.61–3.40, aware; 1.81–2.60, unaware; 1.00–1.80, very much unaware [8].

Table 3 shows the level of awareness of the preparedness programmes already in place. Programmes such as fire drills, earthquake drills, safety seminars, first aid training, and safety orientations may help raise the general knowledge of UM Panabo College students and staff. The results imply that

students and personnel of UM Panabo College are very much aware of the existing preparedness programmes.

3.3 Extent of Implementation of the Disaster Preparedness Programme

Table 4 shows the extent to which the disaster preparedness programme has been implemented, in terms of the frequency of implementation and the preparedness of the risk management plan, including fire drills, first aid training, earthquake drills, and safety seminars. The ratings indicate that the school's disaster preparedness programme is highly implemented, suggesting that the institution is prepared for various disasters, including fires and earthquakes, and has expertise in first aid and safety, thereby limiting unnecessary damage.

Table 4. Extent of Implementation of the Disaster Preparedness Programme

Aspect	Item	Students: Mean	Personnel: Mean	Descriptive Equivalent
Term of implementation	Quarterly	4.61	4.61	Highly implemented
	Semi-annual	4.68	4.68	Highly implemented
	Annual	4.84	4.84	Highly implemented
Preparedness of risk management plan	Fire drill	4.93	4.93	Highly implemented
	First aid training	4.70	4.70	Highly implemented
	Earthquake drill	4.86	4.86	Highly implemented
	Safety seminar	4.89	4.89	Highly implemented

Legend: 4.21–5.00, highly implemented; 3.41–4.20, moderately implemented; 2.61–3.40, implemented; 1.81–2.60, unimplemented; 1.00–1.80, highly unimplemented [8].

3.4 Degree of Satisfaction with the Implementation of the Preparedness Programme

Table 5. Degree of satisfaction with the implementation of the preparedness programme

Programme	Students: mean	Personnel: mean	Descriptive equivalent
Conduct of fire drill	4.61	4.61	Strongly satisfied
Conduct of earthquake drill	4.68	4.68	Strongly satisfied
Conduct of first aid training	4.84	4.84	Strongly satisfied
Conduct of safety seminar	4.93	4.93	Strongly satisfied
Conduct of school safety orientation	4.70	4.70	Strongly satisfied
Conduct of fire drill	4.86	4.86	Strongly satisfied
Average	4.62	4.79	Strongly satisfied

Legend: 4.21–5.00, strongly satisfied; 3.41–4.20, moderately satisfied; 2.61–3.40, satisfied; 1.81–2.60, unsatisfied; 1.00–1.80, highly unsatisfied [8].

Table 5 shows the level of satisfaction with the implementation of UM Panabo College's preparedness programme. The average rating of students (4.62) and personnel (4.79) indicates that both groups are strongly satisfied with the school's implementation of the programme. Because disasters can cause significant disruption and financial, environmental, social, and economic losses in addition to casualties, cultivating a culture of safety and resilience through knowledge and education, and prioritizing information on risks, vulnerabilities, and capacities for the more susceptible, is crucial [4]. Through problem-based learning, students are equipped with information and problem-solving skills related to disaster preparedness, and exposure to real-life scenarios broadens their perspectives and reinforces their resilience [5], [7].

4. CONCLUSION

The assessment of disaster preparedness of UM Panabo College shows that the college's disaster preparedness programme is consistently implemented. However, the low proportion of respondents who reported the availability of an emergency vehicle shows that an emergency vehicle is needed to serve both students and personnel whenever disasters occur.

4.1 Recommendations

Students and personnel share the same concern: only a small percentage of respondents observed that the school has an emergency vehicle. It is therefore recommended that (1) the school provide an emergency vehicle that can be used in times of emergency, and (2) the school remain consistent and committed in ensuring the safety of its students and personnel.

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Authors Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Shaira J. Gutual	✓					✓		✓	✓		✓			
Charles Rhafael H. Hinacay		✓				✓	✓	✓		✓				
Sherwin Menard A. Guatno			✓		✓	✓					✓			
Jovany Gleen L. Allawan	✓	✓		✓						✓		✓	✓	✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

No conflict of interest.

Informed Consent

Not Applicable.

Ethical Approval

Not Applicable.

Data Availability

This study draws on publicly available data. No new datasets were created.

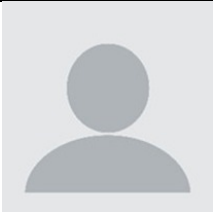
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