

Administrative and Instructional Interventions for Disaster-Prone Bay Schools

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ABSTRACT

This study is a descriptive research design utilizing the questionnaires and documentary analysis, which aims to determine the administrative and instructional interventions applied in disaster-prone bay schools to improve the academic achievement of the pupils/students. The research was confined to ten elementary and two high schools located in the bay schools. The principal subjects were 11 administrators, 73 teachers, Grade VI pupils, and all high school students from whom the data were gathered. Results of the study revealed that majority of the problems encountered due to natural and man-made disasters were observed serious; thus, challenging the potential and administrative skills of school administrators and teachers to realize to the fullest the remedies to these problems and consequently, promote the pupils/students' welfare was fore mostly considered. Knowing these problems, realistic instructional strategies and administrative remedies were identified. For this reason therefore, there is a need for a new breed of dynamic teachers and administrators whose deep concern is to improve the quality of instruction in the school system.

Keywords: administrative, instructional, interventions, disaster-prone

INTRODUCTION

Education is a lifetime process. Dealing with the important task of educating the youth we cannot afford to just sit back and leave but we, as educators, must pro-act and not just react, if we are to make our educational response truly relevant to the needs of the present time and setting. Education must address practically the needs of the students, if it is to be true to its goals of preparing the youth for the future. Perhaps, the multiple important dimensions to consider are the location, condition, and the kind of students to be served by educational agencies. Quality education is difficult to achieve but it is a challenge to all educators and administrators to see that their learners are performing well. They must be aware of the complexity in school administration that arises from different settings or conditions of the schools. Dr. Andres (1992) asserted the essentials of effective leadership when he said: "Authority without responsibility is disintegration and chaos; responsibility without authority is frustration and ineffectiveness." Failure in performance leads to the breakdown of the educational system, deterioration of morale of members, and thwarting of the purposes for which the school was created. Knowing the situation, the next step is to design alternative processes and strategies, which are feasible in the light of constraints. Various processes and strategies must be subjected to a feasibility test so that, maximum use of educational outcomes are achieved with minimum use of educational inputs. Recommended processes and strategies must be presented which entail sound arguments as a basis of the recommendation, according to Arcelo (1984).

This study is inspired by *Bruner's theory of instruction* (Hall and Lindzey: 1970). This theory emphasizes the teachers' role in the instructional and learning processes. Bruner's concern is with the development of the child's cognitive abilities and the need for appropriately structuring educational content led him to develop a theory of instruction. Bruner saw that maturation and environment influence intellectual development, but Bruner turned most of his attention to the instructional environment. He recognized the importance of structure, but he focused on the responsibilities of the teacher rather than the responsibilities of the student or learner.

The nature of the learning process has been studied by psychologists and physiologists and several theories have been made about it. The *Connectionist Theory* refers to the famous *S-R or Stimulus-Response Theory* advanced by Edward Lee Thorndike (Good and Brophy: 1977). This theory is based on the concepts that bond connections are formed between situations and responses. Individual's learning is the core of any educational endeavor through all means. Students learn from any learning experiences with familiarity gained through experiences/associations. As a student becomes familiar with television/VHS/VCD, computer, and overhead projector as an educational devices and instructional instruments, which serves as an aid to learning, he learns to sort out the material. Students view not merely as a means of entertainment but more as an acquisition of information and learning. With this positive attitude, they strive to learn and continuously become aware of everything, furthermore, become well-informed in all things.

Lewin's theory of learning emphasizes that an individual lives in a life space where external and internal forces interact to produce a behavior. The external forces consist of things, situations, or condition around him while his drives, ideas, concepts, feelings, attitudes, and insights constitute the internal forces. When these two forces interact, a resultant behavior forms. Since the purpose of this study is to determine the administrative and instructional interventions through the new instructional materials and devices appropriate in addressing problems on students' academic performance, this study pointed out *Berliner's idea* (1987); that the effectiveness of teachers whose aim is to make his students' end up possessing at least the knowledge and skills judged to be appropriate for that particular type of student is hereby appealing to be relevant to the need of this research.

Suitable interventions should be applied in order to lessen the effects of the problems encountered due to disasters. Disasters hurt people, they injure and kill. They cause emotional stress and trauma. They destroy homes and business, cause economic hardship, and spell financial ruin for many. The people were hurt worst are the poor who are living below the poverty threshold. These groups are those who cannot afford to meet their basic needs due to extreme poverty. The most basic issues in disaster are their impact on the poor and the links between poverty and the education of their children. Education, which is also suffered, should address the question of how to reduce suffering and a true contribution to recovery. (Carter: 1991)

The given of any future scenario in bay schools is already visible if educators assigned in that schools are willing to admit an acceptable challenges for expected and foreseen events/changes which may demand a corresponding respond for a change. What is needed will attempt to explore in search for alternative delivery systems of basic education for the disaster-prone bay schools using planning in scheduling, programming, and alternative sources of financing.

A number of studies revealed the effects of programs and other interventions to student achievement. Noting the work of Sabado (1994), she clarified how the instructional materials could effectively provide adequate and appropriate activities needed to develop the students'

skills in English grammar; for Nava (1990), she pointed out the teachers' utilization of educational media; for Raful (1990); she gave recommendations on the utilization of instructional materials; and finally Abalojon (1993), she revealed that modular instruction was more effective than the lecture discussion method. On the other hand, Good and Grouws (1992) claimed that instructional system involved the following: instructional activity was initiated and reviewed in the context of meaning; substantial position of each lesson was devoted to content development; and students were prepared for each lesson stage to enhance involvement. In so doing, we expect effects of programs and other interventions to student achievement, they added.

Moreover, related studies were in terms of the correlation between different aspects of education both administrative and instructional. Differences were in terms of the following concern; that is the present study tried to determine the profile of the bay schools, the pupils/students' education in terms of enrollment, performance, and graduate trends, problems met due to disaster, and the remediation made by the administrators and teachers.

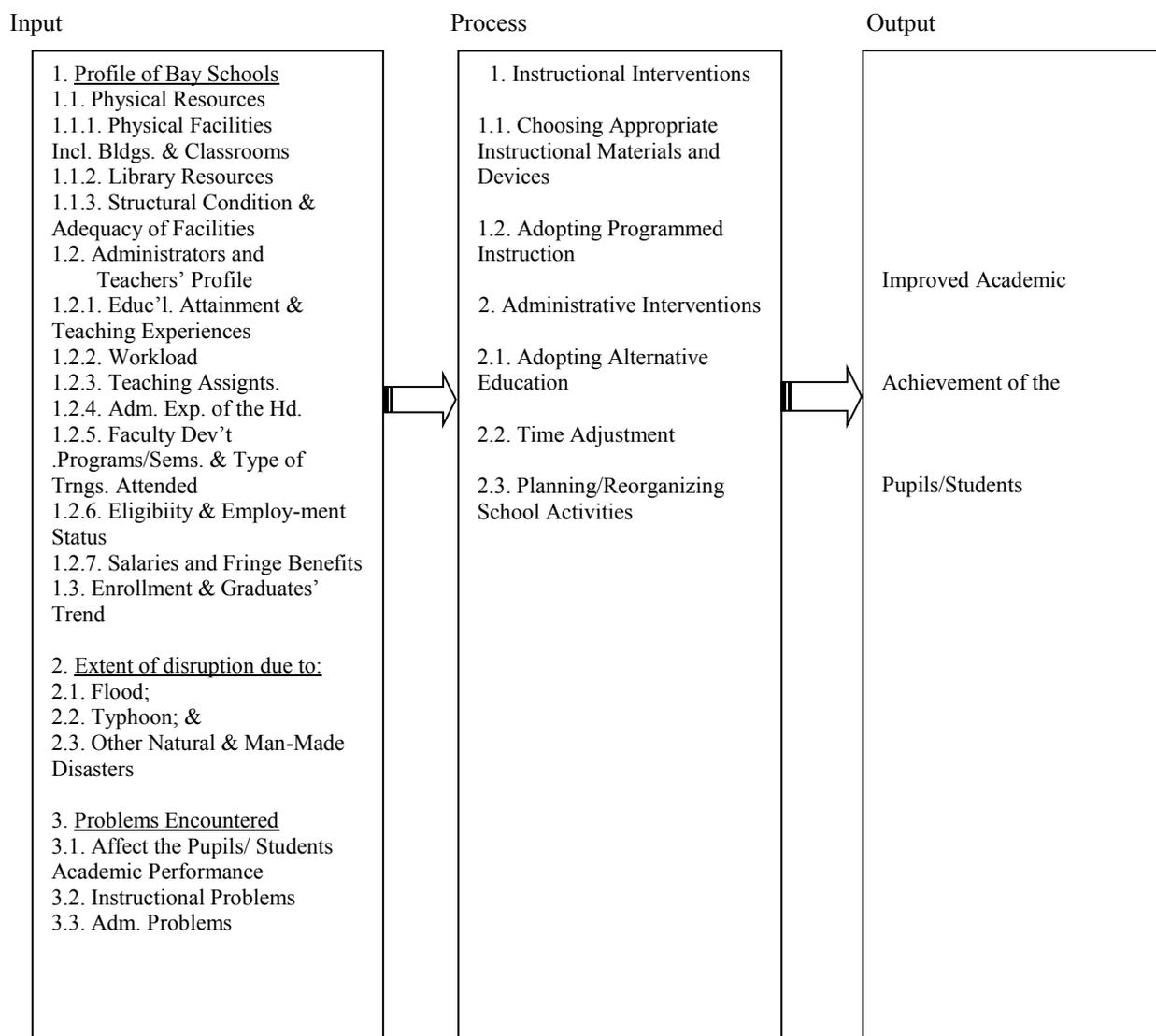


Figure 1. Paradigm of the Study

The conceptual model shown in Figure 1 is divided into input, process, and output frames. The input concerns on school factors and school problems. The process consists of the

instructional and administrative intervention while the school output refers to the improved academic achievement of the pupils/students in disaster-prone bay schools.

Administrative and instructional interventions' program is the totality of activities that will reduce the impact of disaster to the education in the bay schools. First and foremost, it saves education and reduces the pupils/students possible potential losses. Second, it assures efficient response, prompt, and appropriate assistance to learners, and thirdly, it achieves rapid and durable recovery.

The program is well managed by administrators and teachers tasked to make learners capable of joint performance, making their strength effective and weakness irrelevant. It is said that the program is continuous, which means all activities are related to each other and a continuous involvement in the process is necessary. Definitely, it is not a series of events, which start and stop with each disaster's occurrence.

PURPOSE OF THE STUDY

The main purpose of this investigation is to determine the administrative and instructional interventions applied for disaster-prone bay schools.

Specifically, current study sought answers to following questions:

1. What is the profile of the bay schools in terms of the following components ?
 - a) Physical Resources
 - i) Physical facilities including buildings and classrooms
 - ii) Library resources
 - iii) Structural condition and adequacy of facilities
 - b) Administrators and Teachers' Profile
 - i) Educational attainment and teaching experiences
 - ii) Workload
 - iii) Teaching assignments
 - iv) Administrative experience of the head
 - v) Faculty development programs/seminars and type of trainings attended
 - vi) Eligibility and employment status
 - vii) Salaries and fringe benefits
 - c) Enrollment and Graduates' Trend?
2. What is the extent of the disruption of classes due to natural and man-made disasters?
 - a) Flood;
 - b) Typhoon; and
 - c) Other natural and man-made disasters?
- 2) What problems have been encountered by the administrators, teachers, and pupils/students brought by natural and man-made disasters in bay schools?
- 3) How does the problem affect the academic performance of the pupils/students as perceived by the administrators, teachers, and pupils/students?
- 4) Are there significant differences in the perceptions among the administrators, teachers, and pupils/students on the effects of the problems on the academic performance of pupils/students?

- 5) How do the administrators and teachers address the problem about the disruption of classes in terms of:
- a) Instructional interventions; and
 - b) Administrative interventions?

METHODS

Participants

The population of this research consisted of administrators, teachers, and pupils/students in the disaster-prone bay schools of the Philippines. All of the eleven (11) school heads or officers-in-charge including all of the seventy-three (73) teachers, and six hundred thirteen (613) pupils/students under the direct administration of school heads were target respondents. Since the bay schools commonly have 1 section per grade or year level, the researcher opted to use 6 as the constant number of teachers to six (6) schools in bay.

Data Collection Instruments

The primary data gathering instruments were questionnaires and structured interview designed and constructed by the researcher to elicit data for the problem raised in the study. The administrative and instructional interventions for disaster-prone bay schools were also included since they were influential to the academic performance of pupils/students.

Two sets of questionnaires were used. One set was given to the principals and teachers to measure the administrative intervention in addressing problems and the extent of instructional intervention in coping up with problems. The other set was given to the pupils/students to determine the impact of the existing problems to their lives especially to their studies. The researcher asked direct questions to the respondents to obtain more data, and to have greater clarity from them on questions that may serve as follow-up to the problem under study.

Most of the items included in the questionnaire were culled from related literature/studies, instrument and analysis, particularly the one prepared by the researcher. The first draft of the questionnaire was shown to her research adviser for comments, corrections, and suggestions, which were used as bases in improving the content, vocabulary, and style of the first draft. The improved copy was later subjected to validation in the field of educational management. The research panel of the researcher having assured of its validity, the questionnaire was put in its final form.

Data Analysis

The data gathered were classified and presented in table. Descriptive statistics such as: frequency counts for date on (Garret: 1996), average, and percentage distribution of data gathered were utilized depending upon which best express the information desired for analysis and interpretation. Descriptive ratings of data were based in frequency distributed and computed to every rating scale item, Total Weighted Score (TWS), Average Weighted Score (AWS), Average of TWS and AWS, and tallying of quantified responses. Hypothesis testing was also used for the significant differences in the perceptions among the administrators, teachers, and pupils/students on the effects of the problems on academic performance of the pupils/students, and individual's scores as to TWS, Mean, SD, t-test, and analysis of variance. Additional relevant information obtained from interviews were integrated in the analysis and interpretation.

RESULTS AND DISCUSSIONS

Table 1. Structural Condition and Adequacy of Facilities

Rating Scale	Elementary Schools		High Schools		Total	
	Frequency	%	Frequency	%		
A. Condition of Structure	Very Adequate (VA)	0	0	0	0	0
	Adequate (A)	3	30	0	0	3
	Moderately Adequate (MA)	7	70	2	100	9
	Inadequate (I)	0	0	0	0	0
	Very Inadequate (VI)	0	0	0	0	0
	Total Weighted Score	33		6		39
	Average Weighted Score	3.30		3.00		3.25
Descriptive Rating		Moderately Adequate	Moderately Adequate	Moderately Adequate	Moderately Adequate	
B. Adequacy of Facilities	Very Adequate (VA)	0	0	0	0	0
	Adequate (A)	1	10	0	0	1
	Moderately Adequate (MA)	1	10	2	100	3
	Inadequate (I)	7	70	0	0	7
	Very Inadequate (V)	1	10	0	0	1
	Total Weighted Score	22		6		28
	Average Weighted Score	2.20		3.00		2.33
Descriptive Rating Scale		Inadequate	Moderately Inadequate	Inadequate	Inadequate	

The data in Table 1 showed that both the elementary (TWS = 33; AWS = 3.30) and high school (TWS = 6; AWS = 3.00) administrators shared the opinion that the condition of the structure of the facilities was moderately adequate. On the other hand, the adequacy of the available facilities was perceived to be inadequate (TWS = 22; AWS = 2.20) by the elementary administrators, while moderately adequate (TWS = 6; AWS = 3.00) on the part of high school administrators. These findings were in support of Fongayan’s (1981) contention that schools are yet to meet the requirement for school operations. Most of the bay schools today are in need of such facilities and if they exist, improvement is needed since they are vital in implementing school programs. The success of any programs depends largely on these resources. Those who possess better facilities have more chances of performing better and producing better output.

Table 2 revealed the Total Weighted Score (TWS), Average Weighted Score (AWS), and Descriptive Rating (DR) of all groups on the extent of the disruption of classes brought by natural and man-made disasters. The results of the administrators, teachers, and pupils/students’ ratings on the extent of the disruption of classes due to natural and man-made disasters were presented in their combined Total Weighted Score and Average Weighted Score. Obviously, flooding due to typhoon 2,121 and 3.38, flooding due to strong wind caused by typhoon 2,026 and 3.23, and flooding due to high tide 2,009 and 3.20 were observed serious. On the other hand, moderately serious was the descriptive rating derived from TWS = 1,423 and AWS = 2.27 for flooding due to clogging of drainage. This portion endeavors to shed light on the question regarding the extent of the disruption of classes. To have a basis for the study, it is necessary to determine the type and frequent natural and man-made disaster prevalent in the bay schools so that there will be a validated knowledge on the hazards that may affect the pupils/students’ learning. Knowing the frequent disasters set the

framework for disaster management and emphasizes the relationship of disaster management and development. Therefore, the primary responsibility rests to the administrators and teachers who meet the needs caused by the disaster. As Kirsch (1987) confirmed that; it is a need to find more effective ways to educate people.

Table 2. Extent of the Disruption of Classes

Items	Admin.	Teacher	Pupils/ Students	All Groups		
	(AWS) Average Weighted Score	(AWS) Average Weighted Score	(AWS) Average Weighted Score	(TWS) Total Weighted Score	(AWS) Average Weighted Score	(DR) Descriptive Rating
1. Flooding Due to High Tide	2.91	3.30	3.20	2,009	3.20	Serious
2. Flooding Due to Typhoon	2.36	3.34	3.41	2,121	3.38	Serious
3. Flooding Due to Strong Wind Caused by Typhoon	3.18	3.31	3.22	2,026	3.23	Serious
4. Flooding Due to Clogging of Drainage	2.27	1.91	2.31	1,423	2.27	Moderately Serious
Average	2.68	2.97	3.04	1,894.75	3.02	Serious

Table 3. Problems Encountered Due to Natural and Man-Made Disasters

Items	Admin.	Teachers	Pupils/ Students	All Groups		
	(AWS) Average Weighted Score	(AWS) Average Weighted Score	(AWS) Average Weighted Score	(TWS) Total Weighted Score	(AWS) Average Weighted Score	(DR) Descrip- tive Rating
1. Disruption of Classes	2.55	2.94	2.91	1,824	2.91	Serious
2. Skin Diseases	2.18	2.50	2.66	1,652	2.63	Serious
3. Peace and Order Situation	1.91	2.48	1.97	1,267	2.02	Moderately Serious
4. Sickness	2.73	2.39	3.04	1,862	2.97	Serious
5. Disastrous to Livelihood	2.64	3.05	3.15	1,963	3.13	Serious
6. Pollute the Environment	2.55	2.72	2.94	1,823	2.91	Serious
7. Destructive to School Facilities & Equipment	2.64	2.55	2.87	1,774	2.83	Serious
8. Damage to Life and Things	2.27	2.44	2.81	1,734	2.77	Serious
9. Cause of Different Problems such as: Inadequate Food, Clothing and Medicine	1.82	2.42	2.12	1,343	2.14	Moderately Serious
10. Difficult to Travel	2.82	1.50	2.36	1,430	2.28	Moderately Serious
Average	2.41	2.50	2.68	1,667.20	2.66	Serious

Table 3 pointed out that majorities of the problems were observed as serious, thus, challenging the potential and administrative skills of school administrators and teachers to realize to the fullest the remedies to these problems and consequently, promote the pupils/students' welfare. Knowing these problems, realistic instructional strategies and administrative remedies were identified. For this reason therefore, there is a need for a new breed of dynamic teachers and administrators whose deep concern is to improve the quality of instruction in the school system (Malinggang: 1989). In times of emergence of these situations, the need for the bay schools to help survive and provide opportunities for them to ultimately become self-reliant is of utmost importance. (Onarantelli: 1980)

Table 4. Effects of the Problems on Academic Performance

Items	Adminis- trators	Teachers	Pupils/ Students	All Groups		
	(AWS) Average Weighted Score	(AWS) Average Weighted Score	(AWS) Average Weighted Score	(TWS) Total Weighted Score	(AWS) Average Weighted Score	(DR) Descrip- tive Rating
1. Teaching objectives are not completely attained	3.09	2.09	2.38	1,481	2.36	Lesser Extent
2. Limited time for learning	2.91	2.50	2.43	1,536	2.45	Lesser Extent
3. Academic learning by the pupils/students are limited due to disruption of classes	2.27	1.84	2.21	1,363	2.17	Lesser Extent
4. Basic skills are not properly developed	2.36	1.72	2.43	1,476	2.35	Lesser Extent
5. Total number of attendance for the sch. yr. is not completely attained	3.00	2.28	2.51	1,563	2.49	Lesser Extent
6. Lessen the students' interest to perform well in sch.	3.36	1.91	2.21	1,378	2.20	Lesser Extent
7. Schedule of classes is not easy to arrange	1.82	2.36	1.94	1,243	1.98	Lesser Extent
8. Pupils/Students' potentials are not realized to the fullest	2.91	2.16	2.62	1,615	2.58	Moderate Extent
9. Pupils/Students are not progressively advancing in written and oral outputs	2.64	2.25	2.47	1,535	2.45	Lesser Extent
10. Lack opportunities to participate in co-curricular activities	2.27	2.16	2.64	1,621	2.59	Moderate Extent
Average	2.66	2.13	2.38	1,481.10	2.36	Lesser Extent

Table 4 affirmed that it is difficult to hold on to this finding during disaster for many speculations are held about how people will behave in crisis. However, the six hundred twenty seven (627) respondents identified their varied perceptions about academic performance under the impact of such occurrence. The most basic issue in disaster is its impact on the poor and the links between poverty and the education of their children. Education, which is also suffered, should address the question of how to reduce suffering and a true contribution to recovery. (Carter: 1991)

Although majority of the findings were observed with “lesser extent”, teachers should give greater emphasis on areas where students are deficient. Development of instructional materials like modules is recommended to overcome these deficiencies. (Raful: 1990) Individualized learning modules can be devised which permit learners to proceed at their own pace and earn significantly more information through self-tutorial involvement than if they were bound to keep to the pace of large-group instruction (Wittich and Schuller: 1980). Much more, of the concern people are often willing to help, know what to do about the kind of learning their clients really need, and put into practice the policies they have especially during such occurrence. (Cariño: 1992)

Table 5 figured out the two-tailed t-test for eleven (11) administrators and sixty - four (64) teachers that showed a significant difference in their responses with t-statistical value of 2.39 and t-critical of 2.16. While the two-tailed t-test for teachers and five hundred fifty two (552) pupils/students showed a significant difference in their responses with t-statistical value of 4.93 and t-critical of 1.99, and the pupils/students and administrators’ two-tailed t-test showed no significant difference in their responses with t-statistical value of .574 and t-critical of 2.23.

Table 5. t -Values Indicating Differences Between Comparison of Groups on Effects of Problems on the Academic Performance of the Pupils/Students

<i>Comparison of Groups</i>	<i>No.</i>	\bar{x}	<i>SD</i>	<i>t-Values (Observed)</i>	<i>t-Critical= .05 (Probability)</i>	<i>Level of Significance</i>
A. Administrators	11	26.55	6.30			
B. Teachers	64	20.72	7.40			
C. Pupils/Students	552	25.45	5.91			
A vs B				2.39	2.16	t-value> t-critical at the .05 level reject Ho indicating significant difference
B vs C				4.93	1.99	t-value> t-critical at the .05 level reject Ho indicating significant difference
C vs A				.574	2.23	t-value< t-critical at the .05 level accept Ho indicating no significant difference

Table 6. Analysis of Variance for Differences in the Perceptions of the Effects of the Problems among the Administrators, Teachers, and Pupils/Students

<i>Sources of Variance</i>	<i>Sum of Squares</i>	<i>Degree of Freedom</i>	<i>Mean Square</i>	<i>F-Computed</i>	<i>F-Critical .05</i>
Between Groups	1,308.78	2	654.39		
Within Groups	23,162.08	624	37.12	F-Computed = 17.63	F-Critical .05 = 3.01
Total	24,470.86	626	691.51		

Regarding the analysis of variance for differences in the perceptions of the effects of the problems, Table 6 revealed that, there is a significant difference in the responses of the administrators, teachers, and pupils/students with F -statistics = 17.63 and F -critical = 3.01 at the .05 level. Moreover, the F -statistics is greater than F -critical at .05 level indicating the rejection of H_0 .

Table 7 confirmed that in spite of the recurring problems of the bay schools, administrators and teachers are quite optimistic that quality education can be attained in these schools and it can be more effective in serving the needs of its clientele provided that, any relevant program should result in providing life-long learning skills and must also address a concern to survive and recover from today's disasters and adversities. Ancheta (1993) asserted that teachers should manage the classroom efficiently and with minimum disruptions. This includes teacher preparations wherein all the needed instructional materials and devices are at hand to give effect to the smooth flow of activities such that, more subjects are learned in less time.

Table 8 concluded that it is no longer enough to wait for such occurrence but to formulate a set of administrative remedies to address the problems. In this particular situation, administrators and teachers play an important role in putting together the strategies to ensure the soundness and integrity of its implementation. Whenever a problem arises, the teacher should participate in decision making to supplement the leadership role of the principal. He administers in such a way that certain conditions for resources will be provided for a better teaching, for advancing worthwhile activities, and for accomplishing the educational plans in the best possible way. (Shuster and Wetzler: 1984) Therefore, it can be noted that these interventions require a relatively huge amount of funds, which at this point in time could be hardly met considering the economic setbacks besetting the government.

Table 7. Instructional Interventions Adopted to Address Disruption of Classes

Items	Adminis-trators	Teachers	Both Groups		
	(AWS)	(AWS)	(TWS)	(AWS)	(DR)
	Average Weighted Score	Average Weighted Score	Total Weighted Score	Average Weighted Score	Descrip-tive Rating
1. Visual-Aids	3.91	4.08	304	4.05	Agree
2. Audio-Visual Displays	3.82	3.66	276	3.68	Agree
3. Modules	3.82	3.66	276	3.68	Agree
4. Workbooks	3.73	3.94	293	3.91	Agree
5. Take Home Activity	4.00	3.91	294	3.92	Agree
6. Written Activity	3.82	3.83	287	3.83	Agree
7. Film Showing	3.91	3.64	276	3.68	Agree
8. Group Discussion	3.73	3.95	294	3.92	Agree
9. Role Playing	3.73	3.84	287	3.83	Agree
10. Additional Co-Curricular Activities	3.55	3.23	246	3.28	Undecided
Average	3.80	3.77	283.30	3.78	Agree

Table 8. Administrative Interventions to Address the Problems

<i>Items</i>	<i>Adminis- trators</i>	<i>Teachers</i>	<i>Both Groups</i>		
	<i>(AWS) Average Weighted Score</i>	<i>(AWS) Average Weighted Score</i>	<i>(TWS) Total Weighted Score</i>	<i>(AWS) Average Weighted Score</i>	<i>(DR) Descrip- tive Rating</i>
1. Saturday Classes	3.27	2.52	197	2.63	Undecided
2. Time Adjustment	3.73	3.75	281	3.75	Agree
3. Planning/Reorganizing School Activities	3.91	3.94	295	3.93	Agree
4. Provisions of more instructional materials and etc.	3.91	4.03	301	4.01	Agree
5. Proposing Alternative Education	3.83	3.42	261	3.48	Undecided
6. Provide Financial Support	4.00	3.80	287	3.83	Agree
7. Regular Consultation with Parents	3.73	4.17	308	4.11	Agree
8. Construction/Repair of Classrooms and other Buildings	3.82	4.19	310	4.13	Agree
Average	3.77	3.73	280	3.73	Agree

CONCLUSIONS AND RECOMMENDATIONS

In view of the findings, the following conclusions were drawn:

1. The bay schools hardly meet the minimum requirements set by the Department of Education for its operation due to inadequacy of physical facilities, instructional materials, and funding.
2. The extent of the disruption of classes was observed serious in three of the four frequent natural and man-made disasters prevalent in the bay schools.
3. The administrators, teachers, and pupils/students agreed that there were serious problems encountered due to natural and man-made disasters.
4. Only two of the ten effects of the problems on academic performance were observed with moderate extent and the academic performance of pupils/students in bay areas was satisfactory despite the occurrence of the disaster.
5. There is a significant difference in the responses of the administrators, teachers, and pupils/students as to the analysis of variance with F-value greater than F-critical at the .05 level.
6. Both administrators and teachers agreed in nine of the ten instructional strategies adopted to address disruption of classes.
7. Six of the eight administrative remedies to address the problems were agreed by both administrators and teachers.

Based on the findings and conclusions, the following were recommended:

School officials, local government officials, and residents of the community where the school operates should take the initiative of providing good site for the said school with adequate buildings, equipment, and other facilities needed to promote quality education. Better-equipped schools also attract students and competent teachers as well.

A corresponding increase in resources be made available by the administrators when enrollment increases, including facilities and financial allocation, administrative and instructional interventions to cope with the increasing demands of the pupils/students for the educational services of the bay schools.

Both administrators and teachers should determine the type and frequency of natural and man-made disasters prevalent in the bay schools to have a framework for disaster management and emphasize the relationship of disaster management and development.

The validity of the administrative and instructional interventions should be evaluated by the administrators and teachers so they can effectively assist the pupils/students in order to survive in time of disaster.

That administrators and teachers should enrich their academic development programs despite the occurrence of such disaster. It is also recommended that pupils/students be given continuous learning; moreover, incentives may be given to pupils/students manifesting exemplary work attitude.

Teachers should give greater emphasis on areas where students are deficient. Development of instructional materials like modules is recommended to overcome these deficiencies. Individualized learning modules can be devised which permit learners to proceed at their own pace and learn significantly more information through self-tutorial involvement than if they were bound to keep to the pace of large-group instruction. It is highly recommended to develop a follow-up study on the effectiveness and impact of these interventions vis-à-vis the target clientele.

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