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Budget Allocation Model for Public Senior High School Academic Programs

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Abstract

The implementation of Senior High School program in the Philippine educational system requires the national government to provide funding to public high schools to address students' different needs because of different demands required by the different academic tracks offered such as General Academic Strand (GAS), Humanities and Social Sciences (HUMSS), Science, Technology, Engineering and Mathematics (STEM), and Accountancy and Business Management (ABM). However, there are no standardized budget allocation guidelines being followed by the implementing public high schools. The lack of a defined and standardized budget allocation process poses a threat on mismanagement of the available budget. Through the defined factors and quantifying the prioritization of the different learning outcomes of the academic programs into priority weights, this paper intends to develop a budget allocation model using Goal Programming. The budget allocation model was developed using the data of different public schools in Cavite. The results showed an improvement on the achievement of priority weights by an average of 24.76%. The budget allocation model was also translated into a system to allow the public schools to generate the satisficing results on any given year and interpret results with the aid of analytics on the formulated budget.

Keywords
Senior high school, budget allocation, mathematical model, goal programming

1. Introduction

Education, defined as the method of acquiring knowledge in preparation for becoming an intellectual person, is one of the rights that is strongly promoted by the government by offering free education in public schools. To improve the quality of education in the Philippines, K-12 curriculum was implemented. Adding two more years, for the senior high school and introduction of the tracks from which graduating junior high school students may choose from. Academic tracks consist of specialized courses: General Academic Strand (GAS), Humanities and Social Sciences (HUMSS), Science, Technology, Engineering and Mathematics (STEM), and Accountancy and Business Management (ABM). While other tracks such as Technical-Vocational Livelihood, Sports, and Arts and Design Track are also available to choose from. Further enhancements involve reforms on the structure (number of years), curriculum (guided by UbD) and assessment (Okabe, 2013). The additional years for the basic education have posed several issues which had been addressed by increased education funding. Aside from the macro-scale issues on fund management, funds management within the schools that offer SHS lack system on funds allocation that will satisfy the varying needs of the Senior High School (SHS) program.

Previous studies regarding budget management and allocation have been conducted. A study conducted by Behrman, Deolalikar, and Lee-Ying (2002) in the Philippines stated that although decentralization had contributed to increase in quality of primary education, insignificant effects were reflected for secondary education due to lacking arrangements and policies for the secondary level. This may be accounted to the lack of guidelines on how funds may be utilized in the secondary sector and the unclear role of secondary education in the development of students. (Okabe, 2013). Previous studies also suggest that budget allocation priority must be based on student needs (Bramley, Watkins and Karley, 2011) than staff and maintenance needs. Miles and Roza (2006) also pointed out that staff-based allocation provides different amount of budget allocated per student for different districts and shifting to student-focused budgeting will provide equity on financial allocation, in which a baseline for the basic needs for the students are set and a formula is followed for shifting of student needs which will be the drive for the budget distribution. Furthermore, the staff-based allocation may be contributory to the lower quality of education received in public schools than in

private schools despite having more qualified teachers. Additionally, Pan, Rudo, Schneider, and Smith-Hansen (2003), mentioned that effective allocation focusing on addressing student needs contribute directly to better student outcomes.

Moreover, previous studies made use of several techniques to perform effective allocate on using different set of factors which include budget (Bedzieszak, 2013), enrollees (Miles and Roza, 2006; Arsen and Ni, 2012), needs (Favel, 1988), poverty level, performance (Bedzieszak, 2013; Ho, Higson, Dey, 2006), teacher and facilities availability (ho, Higson, Dey, 2006), graduation rates (Lips, Watkins and Fleeming, 2008), and economic status (Steele, Vignoles, Jenkins, 2013). Socio-economic status (SES) of students also contributes to the academic achievement of students. Research continues to link lower SES to lower academic achievement and slower rates of academic progress as compared with higher SES communities. The school systems in low-SES communities are often underresourced, negatively affecting students' academic progress and outcomes (Aikens & Barbarin, 2008). The success rate of low-income students in science, technology, engineering, and mathematics disciplines is much lower than that of students who do not come from underrepresented backgrounds (Doerschuk et al., 2016).

Along with high performance, high number of graduates are also one of the objectives of Department of Education (DepEd). These set of factors are defined, statistically analyzed, and used to formulate a mathematical model to reach optimality. These are carried out on several institutions that includes: colleges, special education, technical- vocational schools, private schools and public schools.

A study that focus on the specific tracks on the SHS programs, where the needs of the students under each SHS program target different fields with varying set of specific student outcomes that require greater attention in terms of budget allocation, has not been conducted. Thus, the researchers formulated a mathematical model specific for the budget allocation for senior high school program in the K to 12 curriculum and determined that factors such as: target outcomes, enrollment size, number of teachers, resources availability, curriculum of senior high school programs, facility requirements, are significant in formulating the budget.

The objectives of the study are a) to evaluate current budget allocation for the Senior High School Programs of the revised basic education curriculum; b) to determine factors that must be considered in budget allocation; c) to formulate a budget allocation model of Senior High School academic programs in public secondary schools; and d) to design a system that will generate proposed budget based on the budget allocation model and given factors.

The mathematical model for budget allocation will aid each school offering SHS programs to maximize the achievement of specified target outcomes. The mathematical model will provide how much budget is needed in a specific SHS program given the restrictions that arise due to defined factors.

The study focused on modeling budget allocation of the public senior high schools in the Philippines and results were tested on selected secondary schools in Cavite. These schools are: Cavite National High School, Tagaytay City National Science High School, Trece Martires City National High School, and General Mariano Alvarez Technical High School.

2. Methods

2.1 Data Collection

The study analyzed the method used in determining the total budget allocation for public senior high schools and the spending patterns of four sample schools. The factors considered in determining the budget allocation are: number of students, number of rooms and number of teachers, while the most significant spending based on the spending patterns are: electricity expenses and, supplies and materials expenses. Both the factors and most significant spending were considered as factors that must be considered in formulating the model. Another factor considered in the model were the prioritization of the learning outcomes. The learning outcomes are the target learnings that must be acquired by the students. To relate this into the budget allocation, the learning outcomes were assigned a corresponding priority weight to determine how much of the proportion of the total budget allocation for the strands must be allocated to the given learning outcome.

The following information were acquired from the sample schools as presented in Table 1.

Table 1. Schools Data

GENERAL MARIANO ALVAREZ TECHNICAL HIGH SCHOOL				
Budget			₱ 623,200.00	
No. of teachers			28	
Academic Program	**STEM**	**GAS**	**ABM**	**HUMSS**
No. of enrollees	189	64	138	182
No. of sections	4	2	3	4

TRECE MARTIRES CITY NATIONAL HIGH SCHOOL				
Budget			₱ 711,200.00	
No. of teachers			35	
Academic Programs	**STEM**	**GAS**	**ABM**	**HUMSS**
No. of enrollees	203	195	148	92
No. of sections	4	5	3	2

CAVITE CITY NATIONAL HIGH SCHOOL				
Budget			₱ 419,600.00	
No. of teachers			21	
Academic Program	**STEM**	**GAS**	**ABM**	**HUMSS**
No. of enrollees	101	29	132	32
No. of sections	2	1	3	1

TAGAYTAY CITY NATIONAL SCIENCE HIGH SCHOOL				
Budget			₱ 521,600.00	
No. of teachers			*26*	
Academic Programs	**STEM**	**GAS**	**ABM**	**HUMSS**
No. of enrollees	148	59	76	121
No. of sections	3	2	2	3

For the priority weights of the learning outcomes, the following data were used as shown in Table 2.

Table 2. Number of Hours per Strand per Learning Outcome

STEM	
Learning Outcomes	**# of hrs**
Visual and Information Literacy	480
Life and Career	360
Communication	400
Experimental	29
Research	320
Math	320
Science	560
Technology	12
Total	2481

HUMSS	
Learning Outcomes	**# of hrs**
Visual and Information Literacy	400
Life and Career	360
Communication	400
Literacy	560
Research	240
Critical Thinking	400
Total	2360

ABM	
Learning Outcomes	**# of hrs**
Visual and Information Literacy	400
Life and Career	280
Communication	400
Literacy	480
Entrepreneurial	320
Numeracy	640
Total	2520

GAS	
Learning Outcomes	**# of hrs**
Visual and Information Literacy	400
Life and Career	360
Communication	400
Literacy	560
Research	240
Critical Thinking	400
Total	2360

The researchers initially tested the results of the priority weights that were based from the subjective opinion of the teachers on the importance of each learning outcomes. However, the results using the DepEd priority weights yielded better results.

To solve for the optimal budget allocation using these determined factors, the researcher formulated a mathematical model shown in Figure 1.

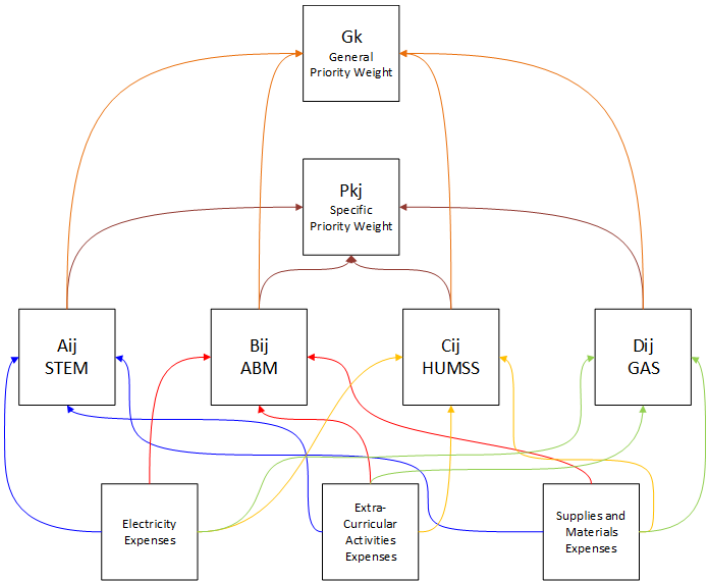

Figure 1. Mathematical Model Structure

The mathematical model structure shows that the expenses (j) are added to the total budget of each strand, and the proportion of the budget learning outcomes (k) must meet the level of the assigned general and specific priority weight. The mathematical model is a goal programming model. Furthermore, the objectives of the goal programming model are as follows: to minimize overachievement on the budget constraint, to minimize underachievement on the per learning outcome of the strand (i) and the general sum of budget allocated to each learning outcome relative to the general priority weight, to minimize underachievement on the sum of budget allocated to each strand relative to the specific priority weights, to minimize underachievement on the expenses allocated for supplies and materials for each strand and learning outcomes, and to minimize underachievement on the expenses allocated for extracurricular activities for each strand and learning outcomes.

In order to allow the schools to utilize the mathematical model on any given year, aside from the academic year that the study covered, the researchers designed a budget allocation system that can compute for the mathematical model at any given year as shown in Figure 2.

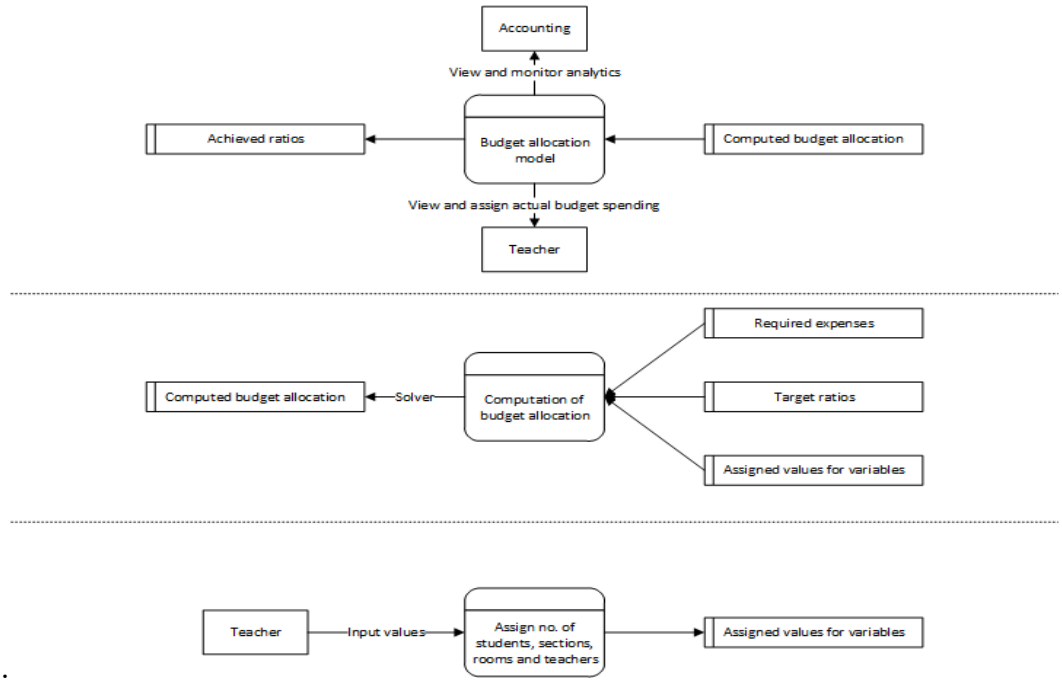

Figure 2. Data Flow Diagram

The data flow diagram summarized all the processes done by the system. The main processes are the assignment of values for the variables, computation of budget allocation and the viewing of the results of budget allocation model. The budget allocation system accepts input of variables for the number of students and sections per strand, and the number of rooms, and teachers for the Senior High School. Built within the system are the target ratios (priority weights for each learning outcome), and the required expenses. These built-in values are integrated with the assigned values based on how they affect the fixed values and the mathematical model is computed by the system. The results of the mathematical model can be viewed and monitored by the teachers.

3. Results and Discussion

3.1 Required Expenses

The mathematical model optimized the budget allocation for the required expenses for each learning outcome as shown in Table 3.

Table 3. Minimum Required Expenses

GENERAL MARIANO ALVAREZ TECHNICAL HIGH SCHOOL (GMATHS)		**TRECE MARTIRES CITY NATIONAL HIGH SCHOOL (TMCNHS)**	
Minimum required expenses		**Minimum required expenses**	
Facility	₱ 137,848.75	*Facility*	₱ 148,376.37
Supplies and Materials	₱ 229,200.00	*Supplies and Materials*	₱ 255,200.00
Extra-Curricular Activities	₱ 100,000.00	*Extra-Curricular Activities*	₱ 100,000.00
CAVITE CITY NATIONAL HIGH SCHOOL (CCNHS)		**TAGAYTAY CITY NATIONAL SCIENCE HIGH SCHOOL (TCNSHS)**	
Minimum required expenses		**Minimum required expenses**	
Facility	₱ 74,443.41	*Facility*	₱ 105,875.93
Supplies and Materials	₱ 117,600.00	*Supplies and Materials*	₱ 161,600.00
Extra-Curricular Activities	₱ 100,000.00	*Extra-Curricular Activities*	₱ 100,000.00

3.2 Priority Weights

The computed priority weights (Saaty, 2008) shown in Table 4 was computed based on the number of hours allotted for each learning outcome. These priority weights, as presented in Table 4, are the main basis of the proportion of the budget allocated for the learning outcome.

Table 4. General Priority Weights

Learning Outcome	# of hrs	Weight
Visual and Information Literacy	1680	0.1728
Life and Career	1360	0.1399
Communication	1600	0.1646
Learning and Innovation	5081	0.5227
Total	9721	

The specific priority weights shown in Table 5 are also computed from the number of hours allotted for the learning outcome. These weights are the basis of the proportion of the budget for each learning outcome from the total budget for the strand.

Table 5. Specific Priority Weights

STEM			HUMSS		
Learning Outcomes	# of hrs	Weight	Learning Outcomes	# of hrs	Weight
Visual and Information Literacy	480	0.1935	Visual and Information Literacy	400	0.1695
Life and Career	360	0.1451	Life and Career	360	0.1525
Communication	400	0.1612	Communication	400	0.1695
Experimental	29	0.0117	Literacy	560	0.2373
Research	320	0.1290	Research	240	0.1017
Math	320	0.1290	Critical Thinking	400	0.1695
Science	560	0.2257		2360	1.0000
Technology	12	0.0048			
	2481	1.0000			
ABM			GAS		
Learning Outcomes	# of hrs	Weight	Learning Outcomes	# of hrs	Weight
Visual and Information Literacy	400	0.1587	Visual and Information Literacy	400	0.1695
Life and Career	280	0.1111	Life and Career	360	0.1525
Communication	400	0.1587	Communication	400	0.1695
Literacy	480	0.1905	Literacy	560	0.2373
Entrepreneurial	320	0.1270	Research	240	0.1017
Numeracy	640	0.2540	Critical Thinking	400	0.1695
	2520	1.0000		2360	1.0000

Based on the values of the priority weights, and required expenses, the goal programming model formulated was solved using Excel Solver.

3.3 Mathematical Model Results

The budget allocation per strand, as shown in Table 6, showed that as the number of students enrolled in the strand, the budget increases as well. The mathematical model addresses the specific needs of each student enrolled in each strand. For the sample schools (data shown in Table 1), all of which have the most number of enrollees in the STEM strand, therefore allocating more budget to the STEM strand.

Table 6. Budget Allocation per Strand

Strand	GMATHS	TMCNHS	CCNHS	TCNSHS
Science, Technology, Engineering and Mathematics	₱175,110.50	₱182,164.25	₱120,132.76	₱141,849.39
Accountancy and Business Management	₱138,726.08	₱148,487.44	₱114,433.39	₱110,846.05
Humanities and Social Sciences	₱139,268.95	₱131,061.51	₱ 77,665.04	₱110,188.85
General Academic Strand	₱106,237.21	₱155,488.64	₱ 72,143.88	₱ 97,949.80
Total	₱ 559,342.74	₱ 617,201.84	₱ 384,375.07	₱ 460,834.09

For the budget allocation per learning outcome, shown in Table 7, the level of budget follows the sequence of the priority weight of the learning outcome. The order of priority weights is: Learning and Innovation > Visual and Information Literacy > Communication > Life and Career, while the order of the budget weight for the schools are Learning and Innovation > Visual and Information Literacy > Communication > Life and Career. Thus, although not all the priority weights are achieved in the budget allocation, the model still leans toward the order of the priority weights.

Table 7. Budget Allocation per Learning Outcome

Learning Outcomes	GMATHS		TMCNHS	
	Budget Allocation	Achieved Ratio	Budget Allocation	Achieved Ratio
Visual and Information Literacy	₱161,322.80	0.7910	₱162,638.72	0.8845
Life and Career	₱ 71,407.32	0.8705	₱ 83,779.24	0.8910
Communication	₱ 76,217.41	0.8118	₱100,614.49	0.9007
Learning and Innovation	₱250,395.21	0.8030	₱270,169.38	0.7755
Over-all spending	₱559,342.74	0.8844	₱617,201.83	0.9093
Learning Outcomes	CCNHS		TCNSHS	
	Budget Allocation	Achieved Ratio	Budget Allocation	Achieved Ratio
Visual and Information Literacy	₱ 95,024.36	0.8393	₱124,704.80	0.8555
Life and Career	₱ 50,296.22	0.8748	₱ 59,086.13	0.8934
Communication	₱ 53,223.44	0.8749	₱ 71,469.26	0.8201
Learning and Innovation	₱185,831.04	0.8058	₱205,573.89	0.7929
Over-all spending	₱384,375.06	0.9256	₱460,834.09	0.9022

Table 8 summarizes the budget requirements for each school and the budget allocation for the expense items which was computed based on the goals of the goal programming model. As seen in Table 8, the goal programming model have satisfied all the expenses constraint and the mathematical model allowed the schools to have a remaining budget for other expenses that was not included in the model.

Table 8. Budget Requirements

Description	GMATHS	TMCNHS	CCNHS	TCNSHS
Total budget available	₱ 623,200.00	₱ 711,200.00	₱ 419,600.00	₱ 521,600.00
Remaining Budget	₱ 63,857.26	₱ 93,998.17	₱ 35,224.94	₱ 60,765.91
Minimum expense for supplies and materials	₱ 229,200.00	₱ 255,200.00	₱ 117,600.00	₱ 161,600.00
Supplies and Materials Budget	₱ 248,340.08	₱ 317,430.43	₱ 184,278.77	₱ 232,882.24
Minimum expense for extra-curricular activities	₱ 100,000.00	₱ 100,000.00	₱ 100,000.00	₱ 100,000.00
Extra-Curricular Budget	₱ 165,569.11	₱ 150,441.48	₱ 119,878.83	₱ 120,889.44
Facility requirements	₱ 137,648.75	₱ 148,376.37	₱ 74,443.41	₱ 105,875.93

Table 9 shows the percentage of the goals achieved. The goal programming model fully satisfied the conditions of the budget, supplies and material, and extra-curricular activities constraints while the compromise to achieve these goals were applied to the percent achievement of the general priority weight and, specific priority weight constraints are underachieved.

Table 9. Percentage of Goals Achieved

Goal Programming Goals	GMATHS	TMCNHS	CCNHS	TCSNHS
Budget	100	100	100	100
General Priority Weight	50	25	25	25
Specific Priority Weight	50	50	54.17	54.17
Supplies and Materials	100	100	100	100
Extra-Curricular Activities	100	100	100	100

3.4 Budget Allocation System

For the teachers, to be able to utilize the model and generate their own budget allocation, the researcher developed a budget allocation system. The budget allocation system requires the teachers to input the variables and the system automatically computes the mathematical model and provides useful reports for the budget allocation.

The form, shown in Figure 3, is the main screen of the system. This is where the teachers will input number of sections and number of students for each strand, and the number of teachers, and number of rooms to be utilized by the SHS.

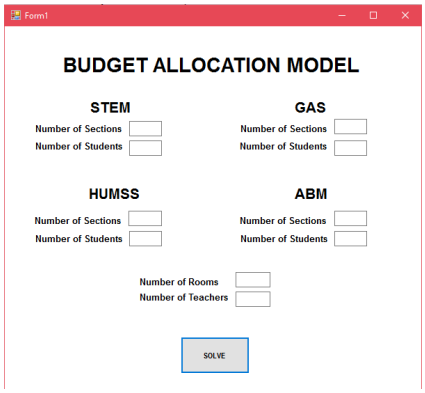

Figure 3. System Form

The budget allocation report, as presented in Figure 4, contains the detailed budget allocation for each expense specified. Also, shown in the report are the summary of the budget allocation per strand, and per learning outcome. This will allow the teachers to see details of the recommended budget allocation for the year.

Learning Outcomes	Target Ratio	Actual ratio	Achieved Ratio	Budget
Visual and Information Literacy	0.1182	0.2439	0.1182	₱ 52,555.86
Life and Career	0.2152	0.1435	0.1435	₱ 30,915.00
Communication	0.3481	0.1250	0.1250	₱ 26,940.88
Learning and Innovation	0.3185	0.4876	0.3185	₱105,065.77
			0.7052	₱215,477.50

Strand	Budget Allocation
Science, Technology, Engineering and Mathematics	₱ 77,083.93
Accountacy and Business Management	₱ 47,016.65
Humanities and Social Sciences	₱ 52,108.85
General Academic Strand	₱ 39,268.07

STEM						
Learning Outcomes	Target ratio	Actual ratio	Achievement Ratio	no. of sections	1	
				no. of students	50	
				Budget Allocation		
				Facilities	Extra-Curricular	Materials
Visual and Information Literacy	0.1022	0.1384	0.1022	₱ 7,047.25	₱ 3,622.49	₱ -
Life and Career	0.2131	0.1760	0.1760	₱ 637.00	₱ 3,055.73	₱ 9,875.00
Communication	0.3627	0.0637	0.0637	₱ 809.84	₱ 2,666.33	₱ 1,437.90
Experimental	0.0596	0.0596	0.0596	₱ 85.34	₱ 975.65	₱ 3,533.21
Research	0.0615	0.0829	0.0615	₱ 392.00	₱ 3,716.71	₱ 2,279.37
Math	0.0654	0.2209	0.0654	₱ 784.00	₱ 13,966.44	₱ 2,277.30
Science	0.0721	0.2265	0.0721	₱ 392.00	₱ 15,000.00	₱ 2,068.95
Technology	0.0634	0.0319	0.0319	₱ -	₱ 543.53	₱ 1,917.90
	1.0000		0.6325	₱ 10,147.43	₱ 43,546.88	₱ 23,389.62

Learning Outcome	Minimum activity expense	Activity Budget
Visual and Information Literacy	₱ 15,000.00	₱ 15,000.00
Life and Career	₱ 10,000.00	₱ 12,529.34
Communication	₱ 15,000.00	₱ 15,000.00
Research	₱ 10,000.00	₱ 11,163.86
Math	₱ 20,000.00	₱ 20,000.00
Science	₱ 15,000.00	₱ 15,000.00
Literacy	₱ 15,000.00	₱ 15,000.00
	₱ 100,000.00	₱ 103,693.20

Total budget available	₱ 276,000.00
Minimum expense for supplies and materials	₱ 80,000.00
Supplies and Materials Budget	₱ 64,362.89
Facility requirements	₱ 42,500.44
Remaining Budget	₱ 60,522.50

ABM						
Learning Outcomes	Target ratio	Actual ratio	Achievement Ratio	no. of sections	1	
				no. of students	50	
				Budget Allocation		
				Utilities	Extra-Curricular	Materials
Visual and Information Literacy	0.1733	0.3080	0.1733	₱ 7,047.25	₱ 4,073.61	₱ 3,362.36
Life and Career	0.2664	0.1413	0.1413	₱ 441.00	₱ 4,426.09	₱ 1,774.93
Communication	0.2461	0.1398	0.1398	₱ 1,005.84	₱ 3,756.84	₱ 1,810.83
Literacy	0.1188	0.1703	0.1188	₱ 1,423.68	₱ 4,218.39	₱ 2,365.88
Entrepreneurship	0.0883	0.0455	0.0455	₱ -	₱ 243.40	₱ 1,894.60
Numeracy	0.1071	0.1951	0.1071	₱ 980.00	₱ 6,033.56	₱ 2,158.40
	1.0000	1.0000	0.7258	₱ 10,897.77	₱ 22,751.89	₱ 13,366.99

HUMSS						
				no. of sections	1	
			Achievement	no. of students	50	

Figure 4. Budget Allocation Report

Figure 5. Analytics

The report shown in Figure 5 are the analytics. The analytics contain graphs and charts that show how the budget is distributed among the strands, and the expense item.

Furthermore, the system is connected to an MS Access database to save the previous years' achievement ratios and budget allocation. This aids the user to determine how the budget allocation generated is performing compared with the previous years' budget allocation. Below the Trend of Over-All Achievement Ratio chart, the trend of achievement for the priority weights.

In summary, the researchers found the most significant budget items, and related them to student needs by analyzing the previous and current year's expenses of the schools. These expenses are estimated and standardized for the model. Using the standardized minimum expenses, the budget available, and the learning outcomes' priority weights, a mathematical model was formulated. The mathematical model is a goal programming model to reach a compromise between all the available constraints. The indicator of the effect of mathematical model are reflected in the achievement of learning outcomes where an increase of an average of 24.76% for the schools. To allow the schools to utilize the mathematical model at different states/school years, the researcher designed a program that will generate the detailed budget allocation.

4. Conclusion

The formula used in formulating a budget for the Senior High School is referred to as Boncodin formula. The variables in the formula are the number of students, number of classrooms and number of teachers. These variables are the initial factors considered in the budget formulation. The actual expenditures were also analyzed to determine how the budget formulated from the Boncodin formula was spent and found that most of the expenses were expenses directly related to students' needs. These expenses are the: electricity expenses and, supplies and materials expenses.

In determining the factors that affect and contribute to efficient budget allocation, the researcher first determined the target learning outcomes of the Senior High School academic programs. This was done to make sure that the mathematical model for the budget allocation are focused on the learning outcomes. To quantify the learning outcomes, the researcher followed the Analytical Hierarchy Process. The data used in the AHP was from a survey for the SHS teachers. Through AHP and by using the Expert Choice software, the researchers computed for the prioritization weights of each learning outcome. These prioritization weights were compared to the DepEd priority weights, which was derived from the number of hours spent for every learning outcomes. Upon determining the

learning outcomes and its prioritization weights, the achieved ratio for each strand and each school was calculated through estimation and validation on the expenses incurred, and were incurred for each strand, specifically on electricity expenses and materials expenses because both expenses are contributory to most of the expenses incurred by the schools.

Furthermore, using the estimated expenses from the sample schools, the standard amount of expense per student and per class for the most contributory expenses to the actual expenses were computed. The minimum expenses required and the available budget serve as the right-hand side for the mathematical model. Using the standardized minimum expenses, the budget available, and the learning outcomes' priority weights, a mathematical model was formulated. The mathematical model is a goal programming model to reach a compromise between all the available constraints.

The indicator of the effect of mathematical model are reflected in the achievement of learning outcomes. The result of the mathematical model showed an average increase of 24.76% for the schools using the DepEd priority weights. To allow the schools to utilize the mathematical model at different states/school years, the researcher designed a program that will generate the detailed budget allocation.

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