Research Article

A Comparative Analysis of Mean Percentage Scores (MPS) of Senior High School Classes

Ariel A. Raganit

Department of Education, Leyte Division

ABSTRACT

This comparative analysis on the Mean Percentage Scores (MPS) results of senior high school classes for Quarters I, II, and III was a good practice that can be emulated by educators in order to give meaning to the data. MPS is not for compilation only. It must be used for decision making in lesson delivery enhancements, learning resources utilization and school improvement plan and adjustment. The design used was descriptive research. This is a comparative analysis of the results of Quarterly Assessments of senior high school classes in a public school in Leyte with the sample of five sections determined by stratified sampling technique. Data were analyzed using Mean, standard deviation, dependent sample t-test, independent sample t-test, two-way Analysis of Variance (ANOVA) and thematic analysis of interviews of subject teachers. Descriptive study is scientific research that methodically deals with a certain region or population and characterizes an occurrence, phenomenon, or fact (Modato, 2017).

Based from interviews and document analysis, extracurricular activities, socio-cultural involvements, the difficulty of learning competences, and examination schedules and the school calendar in general all had an influence on students' performance. In addition, test structures, test layout, and clear directions and instructions have an impact on test results.

Introduction

Data-driven decision making is an important skill that teachers and education leaders must possess. School-based data from assessments results are essential to instructional development, assessment modifications, and even in school governance. Mean Percentage Scores or the MPS can be considered as a substantial baseline data for lesson delivery enhancements, learning resources utilization and school improvement plan and adjustment.

Data-driven decision making is necessary because it allows us to analyze data in real time and derive predictive insights (Miller, 2019). When we use a "data-driven" strategy, it means we base our strategic decisions on data analysis

and interpretation. Educators might use a data-driven strategy to review and organize their data in order to improve academic performance. When we use MPS in data-driven decision making, we can be assured that our decisions can be of help to the students because the data came from the students, themselves.

Mean Percentage Score (MPS) indicates the ratio between the number of correctly answered items and the total number of test questions or the percentage of correctly answered items in a test (DepEd, 2008). When teachers submit the exact MPS, the school monitoring, evaluation and adjustment will be effective, valid, and reliable.

This comparative analysis on the Mean Percentage Scores (MPS) results of senior high school classes for Quarters I, II, and III was a good practice that can be emulated by educators in order to give meaning to the data. MPS is not for compilation only. It must be used for decision making in lesson delivery enhancements, learning resources utilization and school improvement plan and adjustment.

Methods

The design used was descriptive research. This is a comparative analysis of the results of Quarterly Assessments of senior high school classes in a public school in Leyte with the sample of five sections determined by stratified sampling technique. Data were analyzed using Mean, standard deviation, dependent sample t-test, independent sample t-test, two-way Analysis of Variance (ANOVA) and thematic analysis of interviews of subject teachers. Descriptive study is scientific research that methodically deals with a certain region or population and characterizes an occurrence, phenomenon, or fact (Modato, 2017).

Letter and parental consent were sent and secured to inform the parents or guardians that their children were part of the research study. Students were also informed that their test results were used in this study. The researchers asked permission from the school head to gather data and conduct the study. Confidentiality of the samples is observed. All information are used for research purposes only.

Results and Discussion

Table 1. Mean Percentage Scores (MPS) Results of Senior High School classes for Quarters I, II, and III in school year 2019-2020

Grade and Section	Quarter 1 MPS	Quarter 2 MPS	Quarter 3 MPS	Cumulative MPS (3 Quarters)	Standard Deviation (SD)
A - Duhat	78.54	85.56	*76.93*	80.34	4.59
B - Apple	76.17	83.03	80.15	79.78	3.44
C - Atis	*74.83*	84.30	78.54	*79.26*	4.77
D - Orange	77.56	88.33	79.09	81.66	5.83
E - Mango	78.54	*82.51*	82.30	81.12	2.23
Cumulative MPS	77.13	84.75	79.40	80.43	
SD	1.61	2.33	1.99	0.97	

Table 1 presented the Mean Percentage Scores (MPS) of Grade 12 Sections for Quarter I, II, and III in School Year 2019-2020. There were 252 Grade 12 students and 24 subject teachers.

Quarter I data showed that it had the lowest MPS among the quarters. Section A and Section B got the highest MPS of 78.54 and the lowest was Section C with MPS of 74.83. Based from the interview with their teachers, the main reason was the lack of focus and attention of the students before the examination. It was noted that August was the schedule for the Quarterly Assessment and the town fiesta is celebrated also in the said month. Students had to prepare for field demonstrations and other performance tasks.

Quarter II data revealed that this quarter has the highest MPS of 84.75 compared to Quarter I and III. Section D got the highest MPS of 83.33 and the lowest is Section E with MPS of 82.51. There were two notable observations from these numbers. First, there was a massive increase of MPS from Quarter 1 to Quarter 2. Using Dependent Sample T-test, there is a significant difference at p< 0.05 between Quarter I and Quarter II with t-value of 6.8058 and p-value of 0.003. Based from the interview with their teachers in English, students were more focused in their academics and the learning competencies were more engaging. Second, Section E that had the highest MPS in Quarter I became the section with lowest MPS in Quarter II. According to the teacher, students in Section E were more enthusiastic in written tasks but during the second quarter, the teacher focused on speaking and speech competencies.

Quarter III data manifested a decrease of MPS compared to Quarter II but higher MPS relative to Quarter I. Cumulative MPS for Quarter III is 79.40. Section E got the highest MPS of 82.30 and Section A got the lowest MPS of 76.93. There were two notable observations from this numbers. First, Section E got the highest MPS but based on its own standing it decreased from 82. 51 of Quarter II to 82. 30 of Quarter III. Second, Section A that got highest MPS in Quarter I and high standing in Quarter II became the section with lowest MPS. Based from the interview with their teachers, the main reasons were the difficulty of the learning competencies for Quarter III and the schedule of the examinations. The exam was conducted after the holiday break for Christmas and New Year.

Overall, data showed that all sections performed satisfactorily and above the passing rate in the quarterly examinations for the said three grading periods. Results indicated that Section D got the highest MPS which is 81.66 with Standard Deviation (SD) of 5.83, followed by Section E which had 81.12 MPS with SD of 2.23. We can conclude that Section D had the highest MPS but Section E had the less varied and had most consistent performance.

Table 2. ANOVA TABLE

Source of Variations	SS	DF	MS	F	P
Factor	2.6955	4	0.6739		
Error	0	0		0.6739	0.0014
Total	2.6955	4			

Table 2 presented computations for significant difference. Using two-way ANOVA, it was found out that there is significant difference among the MPS of the five sections with f-value of 0.6739 and p-value of 0.0014. The result is significant at p< 0.05.

In general, the performance of the students were affected by extra-curricular activities, socio-cultural involvements, difficulty of learning competencies, and schedules of examinations and the school calendar in general. On the researcher's point of view, test constructions, test lay-out and formulation of clear directions and instructions affect the test results.

Implications
Findings

Quarter I had the lowest MPS of all the quarters, according to the statistics. The major cause behind this was the pupils' lack of focus and attention before to the examination. It was reported that the Quarterly Test was scheduled for August, and that the town festival was also held during same month. Field demonstrations and other performance activities required students to prepare.

In comparison to Quarters I and III, statistics from Quarter II indicated that this quarter had the highest MPS of 84.75. There were two noteworthy findings in this data set. First, from Quarter 1 to Quarter 2, there was a huge increase in MPS. With a t-value of 6.8058 and a p-value of 0.003, there is a significant difference at p < 0.05 between Quarter I and Quarter II using the Dependent Sample T-test.

Quarter III data showed a reduction in MPS when compared to Quarter II, but a rise in MPS when compared to Quarter I. Quarter III's

cumulative MPS is 79.40. There were two noteworthy findings in this data set. First, Section E received the highest MPS, but it fell from 82. 51 in Quarter II to 82. 30 in Quarter III, depending on its own standing. Second, the area with the lowest MPS was Section A, which had the greatest MPS in Quarter I and a good ranking in Quarter II.

Overall, statistics revealed that in the quarterly tests for the three grading periods, all sections performed satisfactorily and above the passing percentage. With an f-value of 0.6739 and a p-value of 0.0014, it was discovered that there is a significant difference between the MPS of the five parts using two-way ANOVA. At p0.05, the result is significant.

Extracurricular activities, socio-cultural involvements, the difficulty of learning competences, and examination schedules and the school calendar in general all had an influence on students' performance. Based on document analysis, test structures, test layout, and clear directions and instructions have an impact on test results.

Conclusions

Students performed best in Quarter II, according to MPS statistics, with a cumulative MPS of 84.75 and an SD of 2.33. Quarter I, on the other hand, had the lowest MPS of 77.13 with an SD of 1.61. Overall, statistics revealed that in the quarterly tests for the three grading periods, all sections performed satisfactorily and above the passing percentage. Section D received the highest MPS of 81.66 with a Standard Deviation (SD) of 5.83, followed by Section E with an MPS of 81.12 and SD of 2.23. We may extrapolate that Section D had the greatest MPS, whereas Section E performance is the least varied and it is stable.

Based from interviews and document analysis, extracurricular activities, socio-cultural involvements, the difficulty of learning competences, and examination schedules and the school calendar in general all had an influence on students' performance. In addition, test structures, test layout, and clear directions and instructions have an impact on test results.

Recommendations

Based from the findings and conclusions, the following are the crafted recommendations.

1. Extracurricular activities must be scheduled so that students will not have overlapping engagements.
2. Practices for community presentations and solidarity activities must be scheduled two weeks before the quarterly assessments.
3. Learning competencies which are complex and difficult must be a topic for capacity building, Learning Action Cell (LAC) sessions, and In-Service Training (INSET).
4. Exam schedules must be revisited. There must be no major activities one week before the quarterly assessments.
5. Comprehensive and localized school calendar must be prepared and introduced to the teachers, students, parents, and stakeholders so all will be aware of priority activities.
6. Master Teachers, coordinators, and chairpersons must conduct capacity building, Learning Action Cell (LAC) sessions, and In-Service Training (INSET) relevant to enhancement of test structures, test layout, and formulation of clear directions and instructions.

References

Miller, K. (2019). Data Driven Decision Primer. Retrieved from https://www.northeastern.edu/graduate/blog/data-driven-decision_making/

Department of Education (2008). DO 60, S. 2008 – Addendum to DepEd Order No. 36, S. 2006: Implementing Rules and Regulations on Executive Order No. 210, Establishing the Policy to Strengthen the Use of the English Language as a Medium of Instruction in the Educational