
Action Research on the Student Performance Monitoring System (SPMS) Implementation

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Overview—This action research aimed to evaluate the effectiveness of the Student Performance Monitoring System (SPMS) at Norberto G. Bacaro Sr. National High School, SY 2022-2023. The SPMS was designed to streamline educational data management and improve student performance tracking. Through this research, we sought to identify the system's current strengths, areas for improvement, and its impact on teacher collaboration, student outcomes, and administrative efficiency. The study used both qualitative and quantitative data from teachers and administrators, and results highlighted key insights for optimizing the system.

Keywords—Student performance, monitoring, data management, administrative efficiency

I. INTRODUCTION

The introduction of digital tools in education, such as SPMS, offers an opportunity to address challenges in student performance tracking, teacher collaboration and administrative efficiency. Developed for Norberto G. Bacaro Sr. National High School, the SPMS was designed to assist in the accurate and timely monitoring of student's academic performance. Its implementation aimed to reduce the burden of manual data handling for teachers, streamline report generation for the administration, and foster collaboration among faculty member by making real-time data accessible. The goal of this action research is to assess the effectiveness of the SPMS and suggest improvement for its continued use.

a. Context and Rationale

As educational institutions face increasing demands for data-driven decision-making process or decisions itself, traditional methods of tracking student performance have proven inadequate. The SPMS was introduced in the 2022-2023 school year to address these gaps at Norberto G. Bacaro Sr. National High School. Teachers faced overwhelming workloads due to insufficient human resources, which led to delays in data processing and feedback. The traditional system (the composite either in electronic and/or printed) was confined to subject teachers and advisers only, making it difficult for the school head to provide targeted interventions. The SPMS facilitates communication across teachers and ad-

ministrators by providing real-time student data. Drawing from Vygotsky's Zone of Proximal Development (ZPD), the SPMS fosters a collaborative environment for teachers to reflect on their pedagogical approaches and instructional delivery and share insights to improve student outcomes. It also supports the implementation of the Philippine Professional Standards for School Heads (PPSSH), specifically in developing reflective and providing technical assistance to teachers. On the other hand, the system is a reflection for teachers to practice the 34 indicators of the Philippine Professional Standards for Teachers (PPST). In general, the SPMS is a platform effective for whole school approach intervention to improve the learning outcomes of learners and address the gap of school's performance indicators.

b. Innovation, Intervention, and Strategy

In a small school setting with limited human resources, the SPMS provided a solution to streamline data management, allowing teachers and administrators to focus on improving student performance. The system was designed to address three core issues: student academic performance, technical assistance for teachers and efficient reporting of Proficiency Level (PL) data, and General Scholastic Average (GSA) data to the cluster for division reports. In the context of inclusivity and diversity of education, The SPMS allowed teachers to input raw scores, calculate GSA, and analyze students' proficiency levels. The system facilitated collaboration by allowing all teachers access student data across learning areas, enabling them to identify trends and makes data-driven decisions like who to remediate based on lagging-behind context. Additionally, the system's cloud platform enabled real-time updates and feedback, even during teacher absences (in case of sick leave and emergencies). The SPMS promoted teacher

collaboration by offering a platform to discuss students' performance and share best practices. In the administrative context, it reduced the time spent on administrative tasks and enhanced the accuracy of data submitted to the cluster, fostering the alignment of plans from SIP – AIP – APP- PPMP-ISP – SMEA, thus improving the overall efficiency of the school's operation system.

c. Action Research Questions

1. How effective is the current SPMS in supporting teacher performance and improving student outcomes?
2. What areas for improvement can be identified in the SPMS on feedback from teachers and administrators?
3. How can enhancements to the SPMS impact teacher collaboration, student performance, and administrative efficiency?

II. METHODS

a. Participants

The participants of this action research were the teaching force at Norberto G. Bacaro Sr. National High School. Data were gathered from their experiences using the SPMS over four quarters of the academic year.

b. Data Gathering Methods

1. Surveys/Questionnaires for broad quantitative data and qualitative feedback from teachers and administrators
2. Secondary Data Analysis of students' performance and administrative reports to measure the impact of SPMS
3. Interviews and Focus Group Discussions for in-depth qualitative insights on user experiences and system improvements
4. Observations of real-time system use for identifying potential bottlenecks and areas of enhancements

III. RESULTS AND DISCUSSION

This section discusses the findings from the data collected through the GSA Interface, Raw Scores, Interface and Seen Zone, as well as the analysis of the survey responses. Focus group discussions and secondary data on student performance

a. GSA Interface

The GSA interface proved to be an effective tool in facilitating real-time monitoring of student performance. Based on survey responses, 85 percent of teachers indicated that they found the GSA interface to be highly effective in tracking student grades and performance trends across learning areas. Teachers were able to input student grades efficiently and access comparative data between different subjects, which led to a more reflective teaching practice. Through focus group discussions, teachers reported that the ability to see student performance across different subjects helped them identify trends in student's strengths and weaknesses. For example, if

a student performed well in mathematics but struggles in language subjects, the GSA interface provided that data in real time, allowing teachers to adjust their instructional strategies accordingly. Administrators found the GSA interface particularly useful for providing immediate technical assistance. When the school head observed discrepancies or delays in grade entries, they could promptly offer support, thus improving the administrative oversight of performance and teacher productivity. As a result, teacher accountability increased, and data-driven instructional interventions became common. Secondary Data Analysis of student grades across four quarters revealed that GSA interface contributed to a 5 percent improvement in the pass rate, especially in subjects where teachers received timely feedback and support based on the real-time data. This improvement suggests that SPMS effectively enhanced both teacher performance and student outcomes.

b. Raw Scores Interface

The Raw Scores interface was widely appreciated for its simplicity and ease of use. According to the surveys, 90 percent of teachers expressed satisfaction with the interface's functionality. Teachers highlighted that no technical skills were required to input data, making the process more efficient, especially in comparison to previous manual methods. The automated calculation feature of the Raw score Interface was noted as a significant improvement. Teachers reported during the interviews that this feature saved time, reducing the workload associated with manually calculating and tracking student raw scores. The system also allowed them to focus more on teaching and less on administrative tasks, as the SPMS took over the grading computations. Additionally, observations of real-time use showed that the Raw Scores Interface allowed teachers to promptly identify at-risk students based on their exam performance. Teachers stated that they could immediately provide feedback to students or plan for remedial instruction after inputting the exam results, significantly shortening the time between assessment and intervention.

c. "SEEN ZONE"

The "SEEN ZONE" feature, which automatically calculated student's proficiency levels, was regarded as one of the most valuable components of the SPMS. Survey results showed that 95 percent of teachers agreed that the visual representation of passing and failing scores was instrumental in quickly identifying students who needed additional support. During focus group discussions, teachers reported that the "SEEN ZONE" allowed them to focus on intervention strategies more effectively. With the clear visual display of scores, teachers were able to identify patterns in student performance and collaborate with each other to address common areas of weakness. This collaboration fostered a more supportive environment, where teachers could share best practices and collectively work toward improving student outcomes. From an administrative standpoint, the "SEEN ZONE" streamlined the reporting process. Administrators could easily access performance data for their required reports to the cluster, which was previously time-consuming. Teachers noted that administrative efficiency increases by 30 percent, as the

SPMS automatically compiled and presents the necessary data, allowing reports to be submitted faster and with fewer errors.

d. Impact on Teacher Collaboration, Student Performance, and Administrative Efficiency

The SPMS significantly impacted teacher collaboration, student performance, and administrative efficiency. Based on the survey, 87 percent of participants stated that the SPMS enhanced teacher collaboration by providing a platform where all teachers could access real-time student data. The GSA and “SEEN ZONE” interfaces encouraged teachers to work together to analyze student performance across learning areas, which reflective practice and peer mentoring. In terms of student performance, secondary data analysis revealed that students in classes where teachers consistently used the SPM for monitoring and intervention saw a 7 percent increase in overall academic performance. Teachers were able to provide timely interventions, which contributed to a noticeable improvement in student outcomes. Administrative efficiency also improved due to the automated features of the SPMS. Reports that previously took days to compile were now generated in minutes, reducing the administrative burden on teachers and allowing them to focus on instructional tasks. Focus group discussion highlighted that the availability of real-time data enabled school head to offer timely technical support, thus improving teacher performance and data accuracy.

e. Identified Areas or Improvement

While the SPMS was generally well-received, some areas for improvement were noted. From the surveys, 35 percent of respondents mentioned that the user interface could be made more intuitive, particularly for new users who may require additional training. Teachers also suggested that enhanced features for collaboration between teachers within the system improves communication and feedback loops. The interviews revealed that some teachers experienced delays when entering large datasets, indicating that the system might benefit from further optimization to handle larger volumes of data without performance issues. Additionally, while the SPMS provided valuable data, some teachers requested more detailed analytics, such as the ability to track long-term trends in student performance over multiple years.

IV. REFLECTION AND CONCLUSION

a. Reflection

The SPMS has proven effective in enhancing data management, fostering collaboration among teachers, and improving student performance tracking. However, continuous improvement is necessary to fully optimize the system’s capabilities. As W.Edwards Deming (1986) emphasized in his principles of quality management, system must undergo constant evaluation and refinement to meet evolving educational needs. Additionally, Boudett, City and Murnane (2005) advocate for data-driven decision-making process and decisions itself in education, which the SPMS embodies through its real time data analysis. The system’s cloud-based plat-

form has made it possible for teachers to access and analyze data, even during periods of absence, fostering a culture of continuous professional development.

b. Conclusion

The SPMS has demonstrated potential in improving the efficiency of student performance tracking, enhancing teacher collaboration, and streamlining administrative processes. Moving forward, further development of the system, incorporating feedback from teachers and administrators. Will ensure that it remains a valuable tool for improving education outcomes at Norberto G. Bacaro Sr. National High School.

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