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Effectiveness of Different Technology-Based Application to the Test Performance of The Grade 10 Learners in Chemistry: Basis for Instructional Supervisory Plan

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ABSTRACT

This study aimed to determine effectiveness of different technology-based application to the Test performance of the Grade 10 leaners. The findings of the study served as a basis of a proposed Instructional Supervision plan. The method used to gather relevant data was Quasi Experimental Research Design for Grade 10 learners to complete in the 2nd grading period and the performance of the respondents was based on their test scores before and after different Technology based application has been introduced and delivered in the classroom. The output of this study is to provide instructional supervisory plan to help the teachers to have an avenue to create a more meaningful teaching and learning process that would help the learners to improve their test performances. Table 3 presents the test of difference between the scores in the pre-test and post-test of Grade 10 in Chemistry subject which was lasted for 4 weeks from the implementation of the intervention to the lessons being delivered. In this table, it reveals how the respondents or the grade 10 learners responded the different learning competencies in second grading period of the aforementioned subject. Based on the results in table 3, which presents the test of difference between the pre-test and post-test scores for Grade 10 students in chemistry, has broad implications that offer insightful information to stakeholders and educators alike. With a computed t-value, the pre-test and post-test scores show a statistically significant difference, above the critical t-value. The fact that the null hypothesis was rejected implies that the course's instructional interventions had a significant effect on the chemistry knowledge of the students.

The test of the difference between the pre-test and post-test results for Grade 10 Chemistry students is shown in Table 3, indicates a statistically significant and noteworthy improvement in the students' performance over the course of the instruction. The overall performance has significantly improved, as evidenced by the pre-test mean score and the post-test mean score. The computed t-value supports the positive difference, highlighting the efficacy of the teaching strategies used in the delivery of the most essential learning competencies. The rigid of the observed improvement is highlighted by the clear deviation from the critical t-value, which is used as a benchmark for assessing the statistical significance of the difference. The null hypothesis (Ho) is rejected because the computed t-value is greater than the critical t-value. This rejection suggests that there was a noteworthy impact of the instructional interventions on students' comprehension of chemistry concepts because it shows a significant difference between the pre-test and post-test scores. Even though the statistical significance is obvious, it's crucial to take the observed difference's practical ramifications into account. In this context, "significant" means that the improvement is not just a coincidence; rather, it has educational significance. Teachers are able to state with confidence that the interventions they used improved students' comprehension of chemistry and served as a foundation for future research and improvement of teaching methods. Table

3 indicates a distinct and statistically significant increase in Grade 9 students' chemistry performance between the pre- and post-test. The computed t-value, which is greater than the critical value, indicates the educational significance of the observed change and supports the rejection of the null hypothesis. For educators, this information is priceless since it shows how effective their teaching methods are and directs future efforts to maintain and improve chemistry student learning.

The effectiveness of the instructional strategies used is demonstrated by the notable improvement in mean scores, which increased in the pre-test in the post-test. This improvement is the outcome of deliberate efforts to improve student understanding rather than just happening by accident. This finding has important practical implications for educators because it supports their instructional strategies and shows that the instructional interventions are effective. The choice to reject the null hypothesis indicates that the observed change in scores is not the result of random variation, confirming that the interventions that were put in place had a significant impact on students' understanding of chemistry concepts. This suggests that focused and well-designed interventions can result in significant improvements in student learning outcomes. It invites teachers to think back on the aspects of their teaching strategy that worked well and to think about implementing or improving these tactics in their next teaching endeavors. Moreover, it emphasizes the educational significance of the noted improvement. Teachers can utilize this understanding to support the implementation of successful teaching practices, provide funding for the replication of successful interventions, and provide guidance on how to address the learning gap of the learners in learning the chemistry subject. The findings point to the possibility that funding thoughtfully planned and focused interventions can produce appreciable gains in student learning outcomes, which should be taken into consideration when allocating resources and planning lessons. Furthermore Table 3 demonstrate the significant influence that instructional interventions have on the chemistry knowledge of Grade 10 students. The effectiveness of the strategies used is validated by the rejection of the null hypothesis and the notable increase in mean scores. Teachers can use these findings to improve their methods of instruction, support interventions based on evidence, and add to the larger discussion about how deliberate and focused instruction can lead to better learning outcomes.

Keywords — Effectiveness Performance Grade 10 Learners Chemistry

I. INTRODUCTION

As part of every teacher’s Key Result Area (KRA), the Information, Communication and Technology (ICT) should be as an effective teaching innovation that would improve both the teaching and learning processes and thus, develop learners to be globally competitive and functional 21st Century Filipinos who are responsive to the changing needs of the society.

The responsible and proper use of a certain technology-based application to grade 10 learners in Chemistry would likewise allow to assess learners’ performance in the most appropriate way possible. With this, the quality, accessibility and cost-efficiency of the delivery of instruction to learners will be improved and increased. In addition, ICT provides the help and complementary supports for both teachers and learners where it involves effective learning with the help of the most effective technology-based application to serve the purpose of learning aids.

However, one of the most challenging tasks of the teacher is how to capture the learners’ attention on the teaching strategy and instructional materials used so that they will totally absorb the lesson imparted by the teacher, since it is the main goal of teaching. With the continuous development of Science and Technology, this task is getting worse. Teachers have to strive hard because of the enormous rivals of getting the attention of the learners. Most students nowadays are

equipped with different gadgets and being addicted to online games. They can easily access to internet and explore what they want, making life easy. With these, how can an ordinary classroom teacher defeat the unsurmountable great rival on learner's attention which is the "Technology"?

Basically, an academic subject that inspires the researcher to take a study about is Chemistry. The very reason is that Chemistry was one of the major subjects she took during her college and the specialization she currently teaching. Hence, it is believed that she learned about it better than the other fields and she feels very much interested with topics pertaining to this area.

Some schools like Pastor Salazar National High School are a medium-sized schools consisting a small number of populations. Small sample size can provide misleading results for many reasons. When there are small numbers of test-takers, a few learners who are distracted during the test, or who are having a "bad" day when tests are administered, can affect the average score considerably.

Although teachers generally appreciate the benefits of technology- based applications, it is often found smooth and effective integration of new educational technologies challenging. From acquisition of new technology equipment to adaptation of curricula and teaching techniques to incorporate new educational tools, technology integration presents significant challenges to some teachers at each level of school systems.

Furthermore, issues surrounding insufficient equipment or connectivity, caused the access constraint. The school does not possess adequate computers and fast internet connection, causing the implementation of educational technology not feasible. Also, a lack of support barriers to technology integration like inadequate technical support is seen as a problem, too.

Moreover, being a teacher further interest in exploring on different strategies in assessing learner's needs for them to be better guided in their academic development.

Hence, this study is conducted to find out if there is a significant difference between traditional way of teaching and teaching using innovative instructional materials on the Academic Performance of the Grade 10 Students of Pastor Salazar National High School.

This study was conducted to determine the effectiveness of different Technology-based Application to the test performance of the Grade 10 learners in Chemistry. The findings of the study were the bases for the proposed Instructional Supervision Plan.

Specifically, the study sought to answer the following questions:

1. What is the pre-test performance of the grade 10 students in Chemistry subject before the integration of different Technology-based Application?

2. What is the post-test performance of the grade 10 students in Chemistry subject before the integration of different Technology-based Application?

3. Is there a significant difference between the pretest and posttest performance of the grade 10 students in Chemistry subject before and after the integration of different Technology-based Application?

4. What Instructional supervision plan can be proposed on the findings of the study?

Statement of Hypothesis:

Ho: There is no significant difference between the pretest and posttest performance of the grade 10 students in Chemistry subject before and after the integration of different Technology-based Application.

II. METHODOLOGY

Design. This study utilized Quasi-Experimental research design to determine the effectiveness of different Technology-based Application to the test performance of the Grade 10 learners in Chemistry. The findings of the study were the bases for the proposed Enhancement Plan and Instructional Supervisory Plan. Quantitative analysis was used to determine the significant difference between the pre-test and post-test mean scores. In this study, the researcher used the Teacher- made Test Questionnaires in Chemistry based on the Self-learning Modules. The study was conducted for one month period in which there were at least 8 learning competencies which were divided per week. The participants for this study will be the grade 10 handled by the researcher that has the lowest Mean Percentage Score. The main local of the study is Pastor Salazar National High School in Tabango North District in the Schools Division of Leyte. The assessment given to the respondents was carefully validated by the teacher-researcher herself which were the pretest and posttest test performances of the Grade 10 learners. The different steps in conducting the identified approach were undertaken in order to validate their performances before and after the implementation of different Technology-based Application to the respondents. This study was mainly focused on the results of the different test validation to gather data: The pretest scores performance of the Grade 10 learners before the implementation of the different Technology-based Application. The Posttest scores performance of the Grade 10 learners after the implementation of the different Technology-based Application was also conducted as well as the significant difference of the pretest and posttest performances before and after the implementation of the different Technology-based Application in the delivery of the most essential learning competencies in teaching Chemistry. In the Quasi- experimental research design, the researcher prepared the different materials which integrating different Technology-based Application. The proposed instructional supervisory Plan was taken based on the findings of the study.

Sampling. There were 63 total number respondents who were included in the study. There were 31 Male and 32 Females with a 63 total number of respondents. The respondents or the grade 10 learners were being identified based on the performance of learners, and the primary means of reach is during the actual conduct of the study as well as during the gathering of data in the school where the study was conducted. Another way of contacting them was through cell phones of their respective parents.

Research Procedure. In order to gather the necessary data in 1 months (30 days), the researcher asked permission from the office of the Schools Division Office headed by our School Division Superintendent Dr. Marisa S. Magan, PhD, CESO VI through Transmittal Letter. The same letter content was given to the Public-School District Supervisor, School Principal, and to the teachers whom the respondents were under their care. The researcher conducted the pretest performance before the integration of the different technology-based application in teaching Chemistry. After administering the pretest, the researcher integrated the new strategy (teaching the lesson on the use of the Different Technology Based Application) for a matter of 1 month. After the given period of time, their leaning was checked through the conduct of the posttest examination. Data were collated and submitted to appropriate statistical treatment. Then after the posttest and pretest were analyzed, the posttest result was treated statistically using the test for mean difference. The Approval and recommendation were done from the Office of the Schools Division Superintendent, as well as to the Assistant Schools Division Superintendent in Leyte Division being the Chairman of the Schools Division Research Committee through the Senior Education Program Specialist in Planning and Research. After the Approval of the Schools Division Research Committee, the Approved or endorsement letter from the body together with the approved letter of intent were forwarded to the Office of the Public School District Supervisor as well as to the office of the School Principal

in order to get full support on the conduct of the study as well as to get also approval from their end. The proposed title and design were submitted to the School Division Office for approval. Upon approval, the Division released endorsement to the District Office where the school is located. When the research was approved by the Schools Division Office and District Office, the researcher began the process of data gathering. Validation of the instruments through Experts such as the Department Head in Science and in coordination with the school head and lastly to the Education Program Supervisor in Learning Resource was sought. Orientation of the participants was done. Answering and retrieval of the research tool followed. Tallying of results and treatment of data. Analysis and Interpretation of Data. The study was bases for a proposed instructional supervisory plan.

Ethical Issues. The right to conduct the study was strictly adhere through the approval of the Schools Division Superintendent, Public School District Supervisor as well as the approval of the School Principal where the study was conducted. Orientation of the respondents both the learners and the teachers including the School Principal was also done. In the orientation, specially to the parents and or guardian, the process of the study was discussed in order for them to know how and why the study will be done and to reiterate that this study is purely focus on the improvement of the performance of the Grade 10 learners. The need for other data that was needed in the study such as the performance of the school in general based on the different performance indicators, a written permission was sought to the principal confidentiality and anonymity and will be discussed requiring them not to write names on the tools and have to writer pseudonym instead.

Treatment of Data. The following statistical formulas were used in this study:

The quantitative responses were tallied and tabulated. The data was treated statistically using the following statistical tool.

Weighted Mean. This was utilized to assess the performance of the Grade 10 learners.

T-Test For Mean Difference- This tool was used to calculate the significant difference of the test performance of the Grade 10 learners in Chemistry

III. RESULTS AND DISCUSSION

TABLE 1

PRE-TEST PERFORMANCE OF GRADE 10 STUDENTS IN CHEMISTRY

Score Range	Description	PRETEST	
		Frequency	%
41-50	Excellent	0	10
31-40	Very Good	1	2
21-30	Good	18	29
11-20	Fair	28	44
1-10	Poor	16	25
Total		63	100
Weighted Mean		**16.40**	**Fair**

Table 1 presents the pre-test performance of Grade 10 Learners in Chemistry Subject. This result was merely focus on the learners' learning performance before the integration of the different technology-based applications in the delivery of the most essential learning competencies in Chemistry.

Based from the data in Table 1, the score distribution shows on how Grade 10 students performed on the pre-test in chemistry, including the frequency and percentage of students falling into each score range. No student has ever received a score in the 41–50 range, which is the highest score range and indicates excellent performance. It's crucial to remember that 44% of students, or those with scores between 11 and 20, were classified as fair. This implies that a sizable segment of the student body might have encountered difficulties with particular components of the pre-test on chemistry. In the Very Good and Good categories, 29% of students showed a good level of understanding, while 2% of students performed in the 31–40 range, indicating a very good performance. Even though the percentages for Very Good and Good are lower than those for Fair, they nevertheless show that a sizable portion of students possess excellent chemistry knowledge. The distribution of these abilities among various performance levels points to a wide range of competencies among the student body. On the students, 25% fell into the Poor (1–10) score range, which was the lowest. This indicates a sizeable percentage of students who might require more help or resources in order to understand basic chemistry concepts. When the overall distribution is analyzed, the findings show that there is a spread across different performance levels, which suggests that focused interventions are required to meet the wide range of needs of the student body.

The performance of the entire Grade 10 cohort can be seen in full by looking at the frequency of 63 students. The weighted mean of 16.40 is in the Fair range, which is consistent with the large proportion of students in that range. The weighted mean indicates the scores' central tendency and reaffirms that fair performance is common among the group. In summary, the chemistry pre-test results of Grade 10 students paint a complex picture. Although a considerable number of students exhibited a fair understanding, there are noteworthy examples in the Very Good and Good categories. Poor scores, on the other hand, indicate a need for focused academic support. This offers insightful information that teachers can use to modify their pedagogical approaches.

Based from the results in table 1, it implied that first off, the lack of pupils in the Excellent category (41–50) raises the possibility that the teaching strategies used by the teachers in the delivery of the most essential learning competencies in Chemistry need to be reviewed in order to make sure that difficult ideas are properly explained and understood by the grade 10 learners. It challenges teachers to evaluate current teaching methods and brainstorm new ones in order to meet

the needs of high achievers who might gain from more difficult material. On the other hand, there may be a foundational understanding gap based on the distribution of scores across categories, with the majority falling within the Fair level of performance. This suggests that a sizable segment of the student body may share common misconceptions or difficulties. Filling in these fundamental holes is essential to developing a solid conceptual grasp of chemistry. In order to reinforce key concepts, educators might need to pinpoint the precise areas in which students were most struggling and then apply focused interventions or additional resources. Moreover, Students in the Poor category indicate that they have considerable difficulty understanding fundamental concepts in chemistry. This group needs targeted interventions and immediate attention. The ramifications go beyond the classroom, highlighting how crucial it is to offer extra academic assistance to these students in order to close the knowledge gap and catch up with their peers. Examples of this assistance include remedial classes or tutoring.

Although the performance is commendable, there is room for improvement, as indicated by the relatively lower percentages of students falling into the Very Good and Good categories. This pushes Chemistry teachers to investigate methods that can help pupils advance from being Good to Very Good and from Very Good to Excellent. To accommodate the various learning styles and speeds of students falling into these categories, it promotes the use of more engaging teaching techniques, enrichment activities, or differentiated instruction.

The overall weighted mean, which is within the Fair category highlights the necessity of addressing the various performance levels with a comprehensive strategy. It emphasizes how crucial it is to support and push students who score higher in addition to concentrating on those with lower scores. To meet the different needs of their students, teachers might have to implement differentiated instruction, which offers both opportunities for enrichment and remedial support.

TABLE 2

POST TEST PERFORMANCE OF GRADE 10 LEARNERS IN CHEMISTRY

Score Range	Description	POST TEST	
		Frequency	%
41-50	Excellent	47	75
31-40	Very Good	16	25
21-30	Good	0	0
11-20	Fair	0	0
1-10	Poor	0	0
Total		63	100
Weighted Mean		**43.68**	**Excellent**

Table 2 presents the pre-test performance of Grade 10 Learners in Chemistry Subject. This result was based from the learnings or skills of the respondents based from the discussions that they have gained from the past 4 weeks of the implementation of the strategies or intervention which is the different technology-based application and was integrated during the teaching of the lessons.

Based from the table 2 results, it was revealed and shows a noticeably positive trend in the chemistry post-test performance results for Grade 10 students in the 2nd grading period. 75 percent of the students or 47 total number of respondents received an Excellent rating (41–50). This notable change from the pre-test results points to a marked advancement in conceptual understanding of chemistry. The effectiveness of the instructional strategies or interventions

used in between the pre-test and post-test assessments is demonstrated by the notable increase in the percentage of students receiving excellent scores. On the other hand, no student received a score lower than 31 on the post-test indicates a noteworthy accomplishment because there are no students in the Good (21–30), Fair (11–20), or Poor (1–10) categories. This may be a sign of focused efforts to close particular learning gaps or difficulties students encountered in the course. The findings suggest that the interventions implemented have been effective in improving the Grade 10 students' overall performance, leading to a concentration of scores in the higher achievement categories.

A high central tendency toward excellent performance is indicated by the weighted mean of 43.68, which falls within the Excellent category. The fact that this mean is considerably higher than the pre-test means of 16.40 indicates how well the instructional strategies used during the course were received. It suggests that, on average, students' comprehension of chemistry concepts has not only improved but also excelled.

The post-test results' preponderance of the Excellent category calls for a closer analysis of the particular interventions or teaching strategies used during the instructional period. Teachers could benefit from figuring out and implementing the winning tactics that went into this amazing turnaround. Moreover, there has been a noteworthy shift towards excellence in the chemistry post-test results for Grade 10 students. The success of focused interventions and efficient teaching techniques is demonstrated by the lack of students in the lower performance categories, a large rise in the Excellent category, and a high weighted mean. This encouraging trend ought to motivate teachers to keep improving and modifying their teaching strategies in order to maintain and improve students' chemistry performance.

The results in table 2 implied that the most notable finding is the significant increase in performance, as demonstrated by the overwhelming 75% of students who scored in the Excellent performance. This points to a very successful teaching method or intervention that took place during the lesson that significantly improved the students' understanding of chemistry concepts. This trend has consequences that go beyond personal success and affect the overall efficacy of the instructional strategies used while to those learners who are not belong to the lowest level of performances, this implies that every student in the class has a thorough comprehension of the subject matter, eliminating any instances of subpar or average performance found in the pretest. The ramifications of this are significant since they show that interventions and instructional techniques created to meet the various learning requirements of the students were successfully implemented. Furthermore, the interventions eliminated lower-level achievement in addition to improving overall performance, demonstrating a comprehensive and effective teaching strategy. The absence of students in the lower score ranges will have a big impact on how teachers teach in the future, so it's important for them to figure out what worked and apply those strategies. Moreover, It implies that most students are not only doing well but also understanding chemistry at an advanced level, supporting the effectiveness of the strategies that have been put in place. With the positive results in terms of test performance, the Teachers should take a close look at the particular interventions that resulted in this improvement and think about implementing these techniques into their routine lessons. Furthermore, a successful outcome might boost students' self-esteem and encourage them to participate more actively in their education, creating a supportive learning environment.

TABLE 3

TEST OF DIFFERENCE BETWEEN THE SCORES IN THE PRE-TEST AND POST-TEST OF GRADE 9 STUDENTS IN CHEMISTRY

Aspects	Test Scores		Computed T	Critical T	Decision	Interpretation
Grade 9 Students in Chemistry	Pre Post	16.40 43.68	3.524	1.441	Reject H_o	Significant

Table 3 presents the test of difference between the scores in the pre-test and post-test of Grade 10 in Chemistry subject which was lasted for 4 weeks from the implementation of the intervention to the lessons being delivered. In this table, it reveals how the respondents or the grade 10 learners responded the different learning competencies in second grading period of the aforementioned subject.

Based on the results in table 3, which presents the test of difference between the pre-test and post-test scores for Grade 10 students in chemistry, has broad implications that offer insightful information to stakeholders and educators alike. With a computed t-value of 3.524, the pre-test and post-test scores show a statistically significant difference, above the critical t-value of 1.441. The fact that the null hypothesis was rejected implies that the course's instructional interventions had a significant effect on the chemistry knowledge of the students.

The test of the difference between the pre-test and post-test results for Grade 10 Chemistry students is shown in Table 3, indicates a statistically significant and noteworthy improvement in the students' performance over the course of the instruction. The overall performance has significantly improved, as evidenced by the pre-test mean score of 16.40 and the post-test mean score of 43.68. The computed t-value supports the positive difference, highlighting the efficacy of the teaching strategies used in the course. The robustness of the observed improvement is highlighted by the clear deviation from the critical t-value, which is used as a benchmark for assessing the statistical significance of the difference. The null hypothesis (Ho) is rejected because the computed t-value of 3.524 is greater than the critical t-value of 1.441. This rejection suggests that there was a noteworthy impact of the instructional interventions on students' comprehension of chemistry concepts because it shows a significant difference between the pre-test and post-test scores.

Even though the statistical significance is obvious, it's crucial to take the observed difference's practical ramifications into account. In this context, "significant" means that the improvement is not just a coincidence; rather, it has educational significance. Teachers are able to state with confidence that the interventions they used improved students' comprehension of chemistry and served as a foundation for future research and improvement of teaching methods. Table 3 indicates a distinct and statistically significant increase in Grade 9 students' chemistry performance between the pre- and post-test. The computed t-value, which is greater than the critical value, indicates the educational significance of the observed change and supports the rejection of the null hypothesis. For educators, this information is priceless since it shows how effective their teaching methods are and directs future efforts to maintain and improve chemistry student learning.

The effectiveness of the instructional strategies used is demonstrated by the notable improvement in mean scores, which increased from 16.40 in the pre-test to 43.68 in the post-test. This improvement is the outcome of deliberate efforts to improve student understanding rather than just happening by accident. This finding has important practical implications for educators because it supports their instructional strategies and shows that the instructional interventions

are effective. The choice to reject the null hypothesis indicates that the observed change in scores is not the result of random variation, confirming that the interventions that were put in place had a significant impact on students' understanding of chemistry concepts. This suggests that focused and well-designed interventions can result in significant improvements in student learning outcomes, which has implications for the larger educational system. It invites teachers to think back on the aspects of their teaching strategy that worked well and to think about implementing or improving these tactics in their next teaching endeavors. Moreover, it emphasizes the educational significance of the noted improvement. Teachers can utilize this understanding to support the implementation of successful teaching practices, provide funding for the replication of successful interventions, and provide guidance on how to address the learning gap of the learners in learning the chemistry subject. The findings point to the possibility that funding thoughtfully planned and focused interventions can produce appreciable gains in student learning outcomes, which should be taken into consideration when allocating resources and planning lessons. Furthermore Table 3 demonstrate the significant influence that instructional interventions have on the chemistry knowledge of Grade 10 students. The effectiveness of the strategies used is validated by the rejection of the null hypothesis and the notable increase in mean scores. Teachers can use these findings to improve their methods of instruction, support interventions based on evidence, and add to the larger discussion about how deliberate and focused instruction can lead to better learning outcomes.

IV. CONCLUSION

Based from the results of the study on the integration of the technology-based application in the delivery of the most essential learning competencies in Chemistry subject particularly in the second grading period, the result was significantly effective and thus, it really helped improved the test performance of the Grade 10 learners. Furthermore, Teachers can utilize this understanding to support the implementation of successful teaching practices or strategies, and provide guidance to other teachers on how to address the learning gap of the learners in learning the chemistry subject.

V. RECOMMENDATIONS

The researcher offered the following recommendations to improve the performance of the Grade 10 learners in Science and Technology particularly in Chemistry Subject.

1. The proposed instructional supervisory plan should be the basis of both teachers and school head during the teaching and learning process as well as giving of technical assistance.

2. The Education Program Supervisors should closely monitor to the schools as to the utilization of the different learning strategies including the technology-based application in teaching the different learning competencies.

3. The school head see to it that the needs of the teachers particularly on the learning and teaching performance will be catered. Thus, it is imperative for the school heads to give proper guidance to all the teachers as to their personal and professional development.

4. The teachers should develop their teaching skills in the delivery of the most essential learning competencies specially in teaching chemistry by attending training workshops that could help enhance their teaching and can help them address the different learning needs.

5. The Public School District Supervisor should closely monitor to the schools pertaining to the teaching and learning process in order to give technical assistance to the teachers as well as to the school heads.

6. In relation to the abovementioned, the researcher is giving the authority to those future researchers to conduct the same study to validate the veracity of the results.

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