Utilization of iNOTE in Science Classroom

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ABSTRACT

The study aimed to obtain observational data demonstrating the influence of the iNOTE note-taking strategy on students' academic development. An experimental study was used as the research method and a quasi-experimental study as the research design. In carrying on quasi-experimental research, the researcher assigned the experimental and control treatments to the two classes. The classes were taught using a different strategy. The experiment class was treated by using the iNOTE as a note-taking strategy and the control class was taught using traditional notes. The research population was involving 60 students in the ninth grade of the SPA Curricular Program, in which purposive sampling was used to determine the sample. The class Shakespeare and Longfellow was determined as the research sample which consisted of 30 students from each class. The class Shakespeare was chosen as the experimental class because the mean score of its pre-test (9.67) was a little bit lower than class Longfellow's score (10.47). A multiple-choice test was utilized as the research instrument, in which pre-test and post-test were conducted to gain data. The hypothesis analysis revealed that the p-value is 0.001, which means it rejected the Ho (Null Hypothesis) and accepted the Ha (Alternative Hypothesis). All the evidence implied that using the iNote note-taking strategy was effective or has an impact on the academic performance in the science of the ninth grade of the SPA Curriculum of the Jacinto P. Elpa National High School.

Context and Rationale

The COVID-19 Pandemic alters pedagogy tactics used in the teaching and learning process with students as well as how technology is used in education. Students have trouble understanding specific material on Self Learning Modules (SLM), Self-Learning Activity Sheets, or Structured Video Recorded Lectures as a result of the change in teaching learning instructions from the traditional classroom environment to remote learning.

During this time, printed resources like SLM or SLAS are distributed over time in the majority of schools. The modules or SLAS are recovered a week after the delivery. As a result, students could fail to write down the key points, main ideas, vocabulary terms, and crucial questions from the lessons that will later be used as their study notes for review.

In the secondary school of Jacinto P. Elpa National High School in Tandag City, data gathered on Mean Percentage Scores were very low at about 32.36 in the Summative Assessment of the First Quarter of the school year 2020-2021. In addition, evidence of poor academic achievement was revealed that 67 out of 74 or 90.54% of the ninth-grade students of the SPA Curriculum obtained insignificant progress remarks which were reflected in the Consolidated Individual Learning Monitoring Plan as reported quarterly.

Table 1.1 Consolidated MPS Report in Quarter 1 SY 2020-2021Consolidated Mean Percentage Score Report Summative Assessment in Science Quarter 1 S.Y. 2020-2021

GRADE LEVEL	CURRICULUM					AVERAGE
	STE	BEC	SPA	SPJ	TVE	
7	76.11	40.48	34.97	50.02	48.75	50.07
8	77.44	43.91	35.80	56.00	46.42	**51.91**

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9	**76.18**	**40.32**	**32.36***	**58.48**	**51.12**	**51.69**
10	79.00	39.27	33.57	60.46	71.62	**56.78**
AVERAGE	**77.18**	**40.99**	**34.18**	**56.24**	**54.48**	**52.61**

Table 1.1 Consolidated ILMP Report in Quarter 1 SY 2020-2021 Consolidated Individual Learning Monitoring Plan (ILMP) Report In Science, Quarter 1S.Y.2020-2021

GRADE LEVEL	**NO. OF STUDENTS**	**CURRICULUM SPECIAL PROGRAM IN THE ARTS (SPA)**		
		Insignificant Progress	**Significant Progress**	**Mastery**
7	58	34	18	**6**
8	118	63	34	**21**
9	**74**	**67**	**4**	**3**
10	76	41	17	**18**
TOTAL	**326**	**205**	**73**	**48**

To address this problem the researchers have thought of an intervention or strategy for students to use in order to improve their academic performance. The researchers hypothesized that using Cornell Note Taking Method plus Sketch Note Taking would outperform students who had a traditional Note-Taking system. The hypothesis was formed as note-taking with the Cornell system facilitates the transfer of new materials to existing cognitive structures, or schema (DiVesta & Gray 1972 cited Evans and Shively 2019) due to the system's design (cueing column, notes and summaries sections).

Most instructors, according to Stacy and Cain (quoted Evans and Shively 2019), view note-taking as an essential part of formal classroom learning, and students who take more course lecture notes typically perform better academically. It is not possible to think of taking notes during lectures as passively repeating what is spoken. In order to manage material absorption, selection, and production concurrently with the final written result (notes), similar to the original composition, it entails an active learning process that heavily relies on students' working memory (Chen et al., 2017). Taking notes is a technique for succinctly capturing information to aid in later memory. Taking effective notes is a crucial, lifetime ability that can be used in academic, social, and professional contexts. According to DiVesta & Gray, referenced in Bellinger & DeCaro 2019, taking notes can help with learning at two different times: when the notes are first taken (encoding benefit) and when the notes are reviewed later on (external storage benefit).

Guiding students through the note-taking process can be a daunting task for many teachers, especially with all of the different tools and strategies available. However, by focusing on tools and strategies that not only organize information but also increase student interaction with that information, teachers can help transform students from transcribers to active learners in their note-taking process (Robinson, C. 2018).

Mills (2019) on the other hand, summarized that taking sketch notes or visual notes is important because this clarifies and organizes information. Humans communicate visually, and visual notes are one of the best ways to learn. Most of the world’s population identifies themselves as visual learners. Information retention is improved when paired with other methods of learning, such as visuals. Visual notes create tangible artifacts of life.

The intent of this investigation was to assess and view the Grade IX SPA students of Jacinto P. Elpa National High School, and their comprehension or achievement in science instructions regarding the utilization of iNOTE as a note-taking strategy to process learning during this time of the pandemic. This study allowed a sampling of the ninth Grade SPA students the opportunity to improve their minority student achievement about the iNOTE as a note-taking strategy and its relevance.

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Research Questions

This study aimed to present the effectiveness of iNOTE as a note-taking strategy on the academic performance in science subjects of Grade IX SPA students. The present study seeks to extend the awareness of students in the use of iNOTE as note taking study strategy.

Specifically, it sought to answer the following questions:

1. What is the mean score of the ninth Grade SPA students before the utilization of iNOTE in science instructions?
2. What is the mean score of the ninth Grade SPA students after the utilization of iNOTE in science instructions?
3. Is there a significant difference between the pretest and post-test results of the ninth Grade SPA students in science instructions?

Innovation, Intervention, and Strategy

NOTE is a hybrid note-taking strategy that has Two (2) main parts, the formatted Cornell Note Method and the Sketch Notes along with outline note-taking, mapping note-taking, and sentence note-taking that provide students an organized, structured, and developed a note-taking template that engages their creativity.

First, the researchers chose the Cornell Note-Taking strategy to enhance students' retention which Walter Pauk of Cornell University devised in the 1950s. Walter Pauk at Cornell University gave Cornell Notes its name. Walter Pauk, an executive of the reading study center at Cornell University created CNT (Cornell Note-Taking) during the 1950s (Broe, 2013). Cornell's note-taking technique was known as a powerful note-taking strategy because this note is highly structured. As (Hayati, 2009) explained that Cornell technique was developed to help students in improving the organization of their notes in lectures. It offered short-time preparation for taking notes in class. If students are taking notes, they can capture the information that they have read and listened. Then, the information can be reviewed later and can be remembered. Note-taking can facilitate learning at two-time points: while initially taking the notes (encoding benefit) and while reviewing the notes at a later time external storage benefit (According to DiVesta & Gray; cited Bellinger & DeCaro 2019). The aim of this strategy is to prevent forgetting, pass the exam, and record testable material (Good Notes, 2017).

Second, sketching or visual note-taking is a creative technique to take notes using images, fonts, lines, shapes, and doodles with pen and paper or a stylus and tablet. Sketching is characterized as "purposeful drawing." Students can add to their handwritten material by adding sketches that visually reinforce key ideas (Robinson, C. 2018). Third, the outlining technique is probably the most popular way for college students to take notes. An outline naturally arranges the information in a highly structured, logical way, creating a framework for the lecture or chapter's subject that is a great study aid for exams. Fourth, note-taking in the form of mapping connects each fact or idea to every other fact or idea by utilizing comprehension and concentration skills.

Mapping is a graphic representation of the content of a lecture. Finally, the sentence way of taking notes uses line space to distinguish ideas, concepts, and thoughts from one another. Each time a new thought is introduced, it is placed on a new line, resulting in notes with numerous sentences arranged vertically.

Part I Cornell Notes Format

Cornell Notes are formatted such that pages of notes are split lengthwise: the right side of the page is used for formal notes while the left side of the page is reserved for main ideas, keywords, and questions relevant to the notes on the right. At the bottom or footer of each page, the note taker writes a brief summary of that page of notes.

Part II Sketch Notes

Analyzing the quality and quantity of notes was part of the study, where the products or outputs of the students

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were graded as written output (40% of the grades quarterly). In doing so, the students followed and observed the scoring rubrics on notes, summary, and sketch notes respectively.

RESEARCH METHODOLOGY

Research Design

The quasi-experimental research was utilized as the research design. According to Cresswell (cited Saputri 2020), the experiment aimed in testing the data to figure out whether it impacts a result or ward variable. In carrying on quasi-experimental research, the researcher assigned the experimental and control treatments to the two classes.

The classes were taught using a different strategy. In other words, the experiment class was treated by using the iNOTE as a note-taking strategy, and the control class was taught using traditional notes. According to Cresswell (cited Saputri 2020), the type of this research is designed as follows:

Table 3.1 Research design

Select-control Group	**Pretest**	**No Treatment**	**Post-test**
Select experimental group	Pretest	Experimental Treatment	Post-test

Moreover, the research started when the researcher gives the pretest to both the experiment and control class. At that point, the experimental class was treated by utilizing iNOTE as a note-taking technique while the control class used a traditional note-taking style. Subsequent to treatment, the researcher gives the post-test for the two classes so as to gauge the outcome. Finally, the data was calculated statistically through a quantitative method.

Participants

The participants of this action research were the ninth-grade IX SPA students enrolled in Jacinto P. Elpa National High School for the school year 2022-2023. The participants of the study were assigned into two groups experimental and control groups. The purposive sampling procedure was utilized to choose the sample from the experimental and control group. The experimental group, which is Class A was given an intervention, and there are 12 males and 18 females with a total of 30 participants. The control group, which is Class B where no intervention was given, consisted of 14 males and 16 females with a total of 30 participants. The present study involved a total of 60 participants.

Table 3.2 Description of Note-Taking Strategy and students Groups

Handwritten SDG Notes: Students will be instructed to use the template to take notes about the main ideas presented in the lectures or in the reading and to take only one or two bulleted notes for every one or two paragraphs. This group will act as experimental group.
Traditional Notes: Students will use any notes while listening to lectures or reading. This group will act as the control group.

Data Gathering Procedure

In collecting the data, the researchers used pre-test, treatment, and post-test. In the pre-test, the researcher gave a multiple-choice test in Science IX Quarter II topic about Organic Compounds with a total of 30 questions to determine the students' scores before the treatment and use the iNOTE as a note-taking strategy. In treatment, the researcher taught science lessons on three topics under Aliphatic Hydrocarbons, namely; Class Alkane, Alkene, and Alkyne for Four (4) weeks to students by using iNOTE note-taking technique with regards to the

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Most Essential Learning Competencies (MELCs) based on curriculum guide in science as the foundation and basis for conducting treatment activities.

The researchers conducted a test as the instrument of the research. The test was divided into two types; pre-test and post-test. It meant that the students were given the test twice; before and after the treatment. In other words, the pre-test was done before the treatment and the post-test was done after the treatment. The test was in the form of an objective type of test to answer in multiple choices of A, B, C, and, D.

On the first day of class, before the teaching-learning started, the researchers gave the pre-test to the classes. The test was distributed to Section Longfellow SPA Students as a control group and Section Shakespeare as an experimental group. The pre-test comprised 30 multiple-choice questions. On the other hand, the post-test was also given for both classes after the treatment. The researchers conducted a post-test to know the result achievement of the students in learning by using iNOTE note-taking strategy. Also, the post-test had the same number of questions as the pre-test. Therefore, the pre-test and the post-test have the same level of difficulty.

The researchers conducted an orientation to the students about the instructions or steps in the iNOTE note-taking technique, so the students will not be confused and will know what they will have to do. While in the post-test, the researchers provided the same set of questions from the pre-test. After that, the researchers compared the result from the pre-test to the post-test to determine the effect and the difference in scores before and after using the iNOTE note-taking technique.

The study was conducted from September 2022 to March 2023 to fully complete the time frame intended for the course of the action research. Moreover, the materials utilized by the researchers were validated by reputable persons in the academe for reliability and validity purposes.

Data Analysis Plan

In analyzing the data, the researcher determined the information by utilizing JASP software. The responses to the questionnaire by the participants were statistically analyzed with the numeric data requirements of the study (Virginia Braun, 2014). The aim of the quantitative method is to quantify, count, or measure the data in numerical scores. (Gajendra K. Verma, 2005). It also measures the score differences from the pre-test and post-test of the experimental group by statistical calculation. Descriptive statistics such as mean, standard deviation, and variance were also considered. To know if there is a significant difference in the results, the T-test formula will be used with a 0.05 level of significance. In addition, T-test was utilized to figure out the distinction between the experimental class and control class between the students' pre-test and post-test scores.

The researcher also calculated the normality and homogeneity test before testing the T-test. The steps would be described as follows:

Normality Test

The test is planned to see if or not the data from both the examined experimental and control gathering originates from the normal distribution populace. To evaluate the test, the researcher utilized JASP with Kolmogorov Smirnov, $\alpha = 0.05$. Subsequently, if the test of normality stated more than 0.05 ($>\alpha= 0.05$), the result is ordinary distribution. Otherwise, if the test outcome is not more than 0.05 ($<\alpha= 0.05$), the result will not be normal.

Homogeneity Test

After the consequence of the normality test stated the result was normally distributed, a homogeneity test was carried out. This aimed to assess the resemblance between the two groups.

T-Test

The researcher must proceed to analyze the data through a T-test after the two trials (Normality and Homogeneity test) have been carried out to examine the distinctions between the two study groups. The researcher could determine if the hypothesis is adopted or rejected. The research was examined with a two-tailed test of importance using JASP through the Independent-samples Test. If the outcome demonstrates that

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the p-value or sig (2-tailed) is greater than sig α=0.05 (5 percent), this implies accepting the null hypothesis. On the other side, if the p-value is below sig α= 0.05 (5 percent), it implies acceptance of the alternative hypothesis.

Statistical Hypotheses

To demonstrate the speculations, the information derived from the experimental class and the control class was determined by utilizing a T-test equation with the supposition as follows: 1) Alternative Hypothesis (H_a) is acknowledged: it implies there is an impact on academic achievement of students utilizing iNOTE note-taking strategy. 2) Null Hypothesis (H_o) is acknowledged: it implies there is no impact on the academic achievement of students utilizing iNOTE not-taking strategy.

The standards were utilized as follows: 1) The p-value or sig (2-tailed) is lower than the significance level of sig α= 0.05 (5%), which implied that the alternative hypothesis H_a is acknowledged and null hypothesis H_o is rejected. It may be reasoned that there is a noteworthy impact on student's academic achievement between students who are utilizing iNOTE note-taking strategy to students who are not utilizing it. 2) The p-value or sig (2-tailed) is higher than the significance level of sig α= 0.05 (5%), which implied that the alternative hypothesis H_a is rejected and null hypothesis H_o is acknowledged. It tends to be inferred that there is no huge impact on student's academic achievement utilizing iNOTE note-taking strategy and students who are not using it.

DISCUSSION OF RESULTS

Data description

The data was collected from the source of two classes of ninth-grade SPA students which had been the group as experimental class and the control class. The experimental class comprised 30 students, and the control class comprised of 30 students, which meant both classes had a total of 60 students. The findings of the research are explained in the description below:

Pre-Test Score

The Pre-test was conducted in measuring the students' comprehension ability before the treatment was given. The student's scores on the pre-test were classified into low, moderate, and high with a rate, particularly category. A score lower than 70 is classified as low class, a moderate class is a score from 70-80, and a high class is a score which is higher than 80. The table below showed the pre-test of both the experimental and control class.

Table 4.1 Score of Pre-Test

Score	Experimental Class		Control Class	
	Frequency	**Frequency %**	**Frequency**	**Frequency %**
<20	30	100	30	100
21-24	0	0	0	0
25-30	0	0	0	0
Minimum	6		5	
Maximum	15		17	
Mean	**9.67**		**10.47**	

The table demonstrated that the mean pre-test score of the experimental class was 9.67 with 30 or 100 % of students getting a low score below 20. It meant that there are none of the students in the experimental class

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gain a moderate or high score. Also, the experimental data showed a minimum score of 6 and a maximum of 15. On the other hand, the mean pre-test score of the control class was 10.47 with 30 students, or 100% getting the low score. None of them got moderate and high scores. Moreover, the lowest score of the control class was 5, and had the highest score of 17.

It proved that all students of both classes need to learn a new strategy of learning comprehension in affecting their listening and writing skills. The class which has a lower mean score could be an experimental class, so this class was selected to receive a treatment strategy for improving their comprehension skills and to increase academic achievement by utilizing iNOTE note-taking strategy.

This research aimed to know whether the iNOTE note-taking strategy is effective or not. Therefore, the researcher would give an iNOTE note-taking as a teaching strategy for students' comprehension skills in the experimental class, meanwhile, the control class was not taught iNOTE. The diagram below presented the pre-test score of the experimental class which has a lower score than the control class.

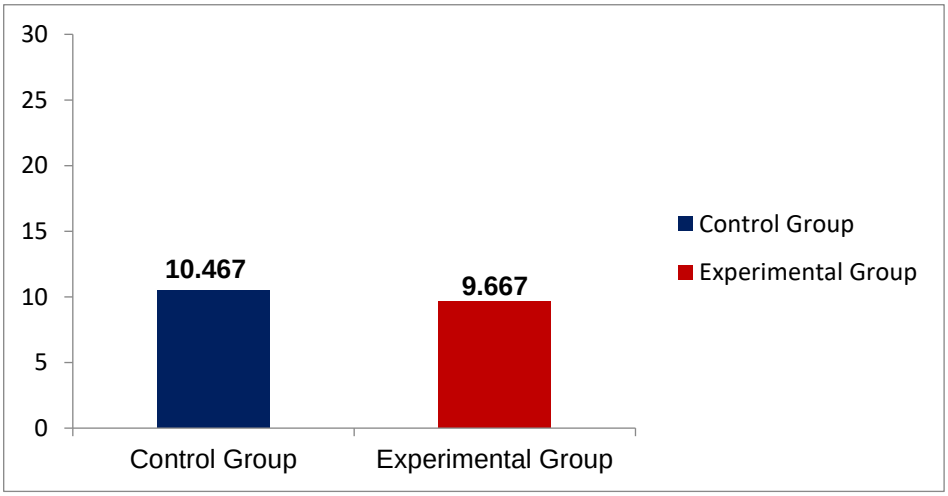

Figure 4.1 Mean Score of Pre-Test

Post-Test Score

The researcher led the post-test after transmitting the treatment by using iNOTE note-taking strategy to the experimental class, and the control class using traditional note-taking in learning comprehension. The post-test was conducted in those classes measure the student's achievement. Also, the post-test score was classified into low, moderate, and high with a percentage in each category. A score lower than 70 is classified as low class, a moderate is a score from 70-80, and a high class is a score higher than 80. The table below showed the post-test of both the experimental class and the control class.

Table 4.2 Score of Post-Test

Score	Experimental Class		Control Class	
	Frequency	**Frequency %**	**Frequency**	**Frequency %**
<20	14	47	16	53
21-24	9	30	11	37
25-30	7	23	3	10
Minimum	13		11	
Maximum	29		26	
Mean	**21**		**19.7**	

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In view of the table, the mean score of the post-test in the experimental class was 20.64 with 68.88%. There were 14 or 47 % students who accomplished low scores under 20, 30%, or 9 students who achieved a moderate score between 21-24, and 23.33%, or 7 students got a high score above 70. In addition, the minimum or lowest score of the experimental was 13 while the maximum or highest score is 29. On the other hand, the mean score of the control class was 65.43 with 16, or 53.33% accomplishing a low score under 20, 11, or 36.67% getting a moderate score, and 3, or 10% getting a high score.

Moreover, the minimum or lowest score of the control class was 11 and the highest score was 26.

Based on Table 4.2 seen above, there was an improvement in both the experimental class and the control class. As previously in Table 4.1, the mean score of the control class was greater than the experimental class in the pre-test, but in the post-test, the mean score of the experimental was increased than the control class. It proved that there was an effect of using the iNOTE note-taking strategy on students' comprehension.

To make it comprehensive, the researchers described the data in the figure below. It was clearly figured out that the experimental class had a better score on the post-test after receiving the treatment by applying iNOTE note-taking strategy.

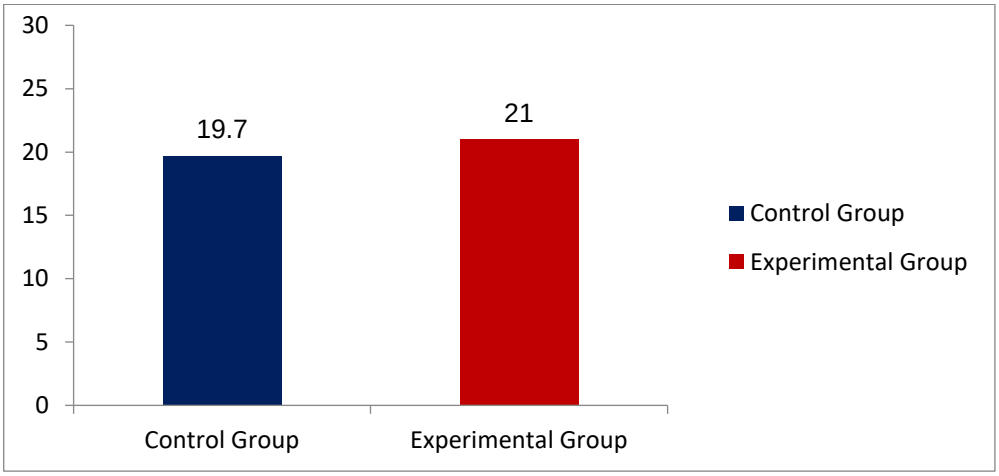

Figure 4.2 Mean Score of Post-Test

Gain Score

The researchers presented the students' gain scores after describing the two previous scores, pre-test, and post-test. The difference score between the pre-test and post-test scores is considered as the gained score. Same as the two previous scores, the gain score was divided into three categories; low, moderate, and high with a percentage in each classification. The range of the gap score was not quite the same as the two scores before. A score lower than 0 was categorized as the low gap group, a score in the range of 0-10 was in the moderate gap group, and a score greater than 10 was in the high gap group. The table below presented the gain score of both the experimental class and the control class.

Table 4.3 Gain Score

Score	Experimental Class		Control Class	
	Frequency	Frequency %	Frequency	Frequency %
<0	0	0	0	0
0-5	4	13	8	27
5-10	12	40	10	33
>10	14	47	12	40

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Minimum	3	1
Maximum	17	18
Mean	9.93	9.80

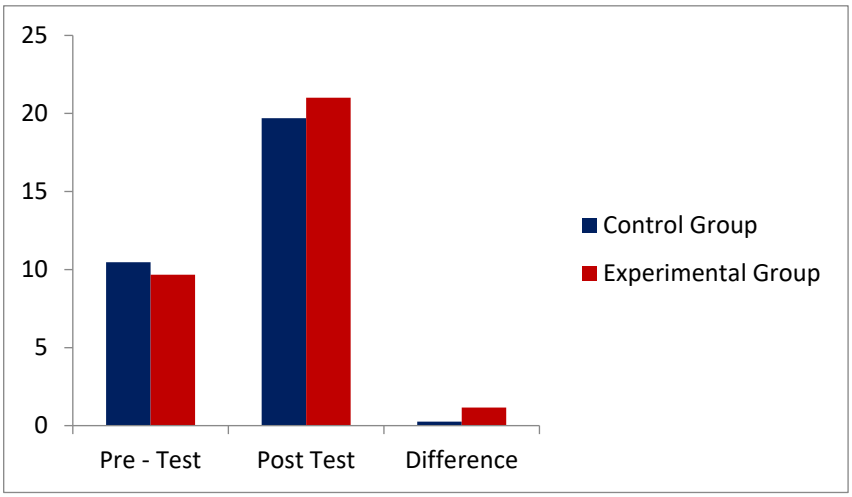

Figure 4.3 Mean Score of Pre-Test, Post-Test, and Gained Score

Data Analysis

Normality Test

Table 4.4. Normality Test for Pre-test and Post-test of Experimental and Control Class

		Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Pre Test	Experimental class	0.760	29	0.227	0.963	29	<0.01
	Control class	0.910	29	0.100	0.956	29	<0.01
Post Test	Experimental class	0.760	29	0.100	0.952	29	<0.01
	Control class	0.720	29	0.100	0.95	29	<0.01

In the Kolmogorov-Smirnov column, the significance of the experimental class in Pretest was 0.227, while the control class was 0.100.

The data can be considered as a normal distribution, if it is more than or equal to a significance $\alpha = 0.05$. It meant that the data of both classes were generally distributed.

Likewise, the Kolmogorov-Smirnov rows presented the post-test result of two classes, in which the experimental class and control class got 0.100. Also, the researchers found out that the data of both classes was above 0.05. This implied that the study information was normally distributed. Therefore, using iNOTE note-taking is effective on students' comprehension.

Homogeneity Test

The homogeneity test was conducted to determine the equality of both the experimental class and the control class, also this test was intended to measure the similarity between the two classes on the pretest and posttest scores. The Lavene Statistic formula was utilized to scale whether both classes were homogeneous or not. The results are presented as follows:

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Table 4.5 Homogeneity Test

	Levene Test	df1	df2	Sig.
Pre - Test	0.835	29	29	0.248
Post - Test	0.740	29	29	0.229

This table explained the results of the significant data from both the experimental class and the control class. The pretest result was 0.248 and was above the significance of 0.05. Consequently, the data from both classes were homogeneous.

Furthermore, the result of the post-test score value was higher than 0.05 (0.229>0.05). It meant that both classes were also homogeneous.

Hypotheses Test

The test of data hypotheses in this research was required to know if there is an impact of using iNOTE note-taking treatment on students' comprehension and to see the significant difference between the pretest and post-test results. Therefore, in testing the research hypotheses, the JASP software was utilized to perform certain analyses. The mean score of the pretest and post-test were measured and calculated by inputting it into the software. The formula 0.05 or 5% was the determining significance value or alpha of the test. The table below would describe the results clearly:

Table 4.6. Paired Samples T-Test for Note-Taking

Measure 1	Measure 2	Test	Statistic	z	df	p
Pre-Test Control	Post-Test Control	Student	-11.619		29	< .001
		Wilcoxon	0	-4.782		< .001
Pre-Test Experimental	Post-Test Experimental	Student	-13.731		29	< .001
		Wilcoxon	0	-4.782		< .001

The table above showed the paired T-Test. Based on the result, the p-value is less than the alpha 0.05 or 5% and had significance statistically, so we have to reject the null hypothesis. Therefore, we can accept the alternative hypothesis which shows that there is a relationship between note-taking to the academic achievement or getting a high score in the experimental group test. In other words, there was a significant impact of utilizing iNOTE note-taking strategy on students' comprehension.

The researcher calculated the data to reveal the effectiveness of applying the iNOTE note-taking strategy in the ninth-grade of SPA students of Jacinto P. Elpa National High School. The research aimed to measure whether using iNOTE note-taking gives an impact or not on students' academic achievement. To describe more about the result, the researchers will explain it in the paragraphs below.

In the data description, the data in Tables 4.1 and 4.2, were pretest scores and post-test scores of both the experimental class and control class. The pretest was given to decide what class should be an experimental class and control class and to gauge students' comprehension before the experimental class received any treatment. The mean score of the experimental class was lower than the control class. The data illustrated in Table 4.1 mean score of the experimental class was 9.47; meanwhile, the control class was 10.67.

After the experimental class received the treatment given by the researchers, meanwhile the control class did

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not receive any treatment, so the researchers conducted a post-test. Table 4.2 showed that the experimental class had a better mean score which was 21.0 while the control class was 19.7. The data confirmed that the treatment by applying iNOTE note-taking strategy was effective.

Moreover, a paired sample T-Test was carried out to reinforce the statistical statements above. The p-value or sig (2-tailed) result showed 0.001. It demonstrated that the p-value of 0.001 was lower than sig $\alpha = 0.005$ or 5%, in which the null hypothesis had been rejected and accepted the alternative hypothesis.

To sum up, the statistical analysis inferred that iNOTE note-taking strategy gave significant effects on students' comprehension in the ninth grade of SPA students of Jacinto P. Elpa National High School.

Then, the findings of this research were supported by other relevant studies conducted by Hayati, 2009; Davoudi, 2015; Anjarsit, 2017; Johaerani, 2017; Evans, 2019. Besides, there are several differences and similarities between those previous studies with this research. In addition, two researchers conducted the study on different aspects; Anjarsit and Hayati investigated Cornell Note-taking on students' listening and Davoudi examined Cornell Note-taking on students' grammar, meanwhile this research on students' comprehension of science instructions. Also, Evans and Shively performed a study using mix method design of quantitative and qualitative, meanwhile, this research used a quasi-experimental research design. Ade Saputri, 2020 also investigated the Cornell Note-taking strategy on students' reading comprehension of narrative text. Lastly, there were several similarities between those researches and this research; Johaeri, Hayati, and Davoudi were involving English Foreign Language as the participant and analyzed the data by utilizing T-Test.

CONCLUSIONS AND RECOMMENDATION

Quasi-experimental research was a research design utilized by the researchers. The research was directed to the ninth-grade SPA students of Jacinto P. Elpa National High School. This research aimed to measure whether iNOTE note-taking strategy is effective or not on students' comprehension of science instruction. In Chapter IV, the empirical evidence of the research proved that iNOTE note-taking was effective to be a strategy for learning science instruction.

The research gained data for both the experimental class and control class for the rom pretest and post-test given before and after treatment by utilizing iNOTE note-taking. The statistical data showed that the experimental class had a significant enhancement after the treatment by utilizing iNOTE note-taking. It was explained in Chapter IV that the mean of the pretest score of the experimental class was 9.47, then it increases by 11.53 points to become 21.0 in the post-test score. On the other hand, the mean of the pretest score of the control class was 10.67, then it increases by 9.03 to become 19.7 in the post-test score.

The researchers utilized JASP in examining the data of the T-Test. The result indicated that the significance of the research was 0.001 (p-value 0.001). It meant that the null hypothesis was rejected and the alternative hypothesis was acknowledged since a p-value of 0.001 was less than sig α 0.05. The statistical data answered the formulation of the research that iNOTE note-taking was an effective strategy in teaching and learning science instruction in the ninth grade of SPA students of Jacinto P. Elpa National High School.

The researchers recommended this research be used in teaching-learning in other subject areas to help them comprehend the content earnestly. The teachers are expected to think creatively and innovatively in teaching science lessons. It is hoped that this research can be used as an additional source for the next research. To synthesize, the iNOTE note-taking strategy is perhaps a solution in learning science subjects and students.

Conflict of Interest

The researchers declare no conflict of interest.

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