

# The Effects of Storytelling in Recognizing Numbers and Numbers Sense on Grade 2 Pupils in Anonang Elementary School

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**Abstract-** This study aimed to determine the effect of storytelling in recognizing numbers and number sense of Grade 2 pupils in Anonang Elementary School. This study was realized with the cooperation of a total of forty-eight (48) pupils, Twenty-four (24) pupils from the control group and twenty-four (24) pupils from experimental group were considered as respondents of the study. This study employed a quantitative research design using experimental method. A researcher-made questionnaire was used in gathering data which was validated by a panel of experts. The statistical tools used in this study were the average weighted mean and t-test for independent samples. Based on the mean gain scores, there was a significant difference between the experimental and control group. This means that the storytelling is found effective in recognizing numbers and number sense. It further means that the method is recommended to use in enhancing the skills of the learners to recognize numbers and number sense.

**Keywords-** storytelling, number, number sense, experimental method, Philippines

## I.INTRODUCTION

Storytelling is an activity of sharing oral stories and sometimes improvising theatrics. It is a means of edutainment (educational entertainment) by imparting number and number sense. The study states that using a strategy like storytelling in teaching mathematics increases the ability and skills of the students to solve word problems and higher-order questions (Albool, 2013).

In the local schools of McLean Country, Illinois, three storytellers gathered stories and shared with students in grade levels three to seven. The storytellers were paired with the local historical society to do the research and find ways to take the stories into the schools. The lessons were aligned with State Learning Goals for Fine Arts Language Arts and Social Science. The Basic themes for the stories centered around Pioneers and Native Americans, Tales of Early Settlers, Political Leaders Local Women Pioneers and, People, Places and Things in the

History of Central Illinois. The result allowed the tellers to give programs for students by combining PowerPoint Presentations that showed photos of stories about the people and events and authentic artifacts for children to handle in the classroom; the storytellers were able to give information about stories so that the learners will gain knowledge about the real-life story.

Meanwhile, in the Philippines, the language learning classroom can be a Third Space that acknowledges and affirms multidimensional identities. Storytelling is very effective in classroom activities by allowing the students to share their personal histories. And they can prove that teaching is effective in the way of teaching inside the classroom as a tool authentic strategies way of teaching and give entirely of learning that can deliver the teacher into the learners (Darvin, 2014).

In the Island Garden City of Samal, most of the students hate mathematics. The teachers must entertain teaching mathematics to get their attention and replace their hatred with excitement. Storytelling

as a learning tool can get the students' attention and make students listen more to the teacher who uses storytelling in discussing mathematics. It can make students easily understand the lesson.

The researchers also experience a teacher who is not ready to teach math. Sometimes, they only instruct the activity; they didn't give some excitement in teaching math, so the effect of their teaching strategy is we get low scores sometimes we are zero during our assessment day. So that we use storytelling in this study to see if giving excitement to the student during the math class is effective and can get their attention.

### Hypothesis

The following hypothesis will be tested at 0.05 level of significance.

- There is no significant difference in the pretest mean score of the students in the control and experimental group.
- There is no significant difference in the pretest, and the posttest means scores of the students in the control group.
- There is no significant difference in the pretest and posttest mean scores of the students in the experimental group.
- There is no significant difference in the mean gain scores of the students in the experimental group who were exposed to the storytelling method and the students in the control group who were exposed to the traditional method.

## 2. Method

This research utilized a quantitative research design using an experimental method. This design is concerned with the examination of the effect of the independent variable on the dependent variable, where the independent variable is manipulated through treatment or intervention(s), and the impact of those interventions is observed on the dependent variable (Ross & Morrison, 2013).

Moreover, a pretest can also be used in this design to assess or confirm whether the two groups were initially alike on the outcome of interest. With smaller samples, pretesting may be advisable to check on the equivalent of the groups. This design is appropriate for this study, consisting of two groups; the plan was composed of a pretest and posttest

given both to the experimental and control groups. Treatment was given to the experimental group using storytelling, while the control group did not undergo the said treatment. A five-day treatment was conducted only to the experimental group. After the procedure, a posttest was administered both to the experimental and control group. The data collected were tallied, collated and recorded accordingly. Results were analyzed, interpreted, and statistically computed to answer the questions of the study.

The participants in this study were the Grade 2 pupils of Anonang Elementary School, composed of two classes, both from the general sections. Each class comprises fifty-three pupils where the experimental and control groups were chosen. The control group came from the first section, and the experimental group came from the second section that received the treatment, which was the storytelling.

The researchers also constructed a test in Mathematics that served as the posttest use in recognizing the effect of storytelling in recognizing numbers and number sense of the respondents. The research instruments were submitted first to the adviser and panel examiners for correction and validation. Letters of permission were also sent to Don Esteban Dasalla Elementary School and San Jose Elementary School for reliability testing and to Anonang Elementary School for the formal conduct of the study.

Table below shows the descriptive interpretation of the score interval.

Table-1: Descriptive Interpretation of the Score Interval

Range of Test Scores	Descriptive Equivalence	Interpretation
21.00-25.00	Outstanding	This means that the respondent show extremely high performance in recognizing numbers and number sense through adding whole numbers with the use of

		storytelling.
19.00-20.00	Very satisfactory	This means that the respondent shows high performance in recognizing numbers and number sense through adding whole numbers with the use of storytelling.
17.00-18.99	Satisfactory	This means that the respondent did not show unsatisfactory performance in recognizing numbers and number sense through adding whole numbers with the use of storytelling.
15.00-16.99	Fairly satisfactory	This means that the respondent shows unsatisfactory performance in recognizing numbers and number sense through adding whole numbers with the use of storytelling.
0.00-14.99	Did not meet expectations	This means that the respondents need improvement on the performance in recognizing numbers and number sense through adding whole numbers with the use of storytelling.

### III.RESULTS AND DISCUSSION

#### The Pretests Mean Scores of the Experimental and Control Groups

Table 2 shows the pretest mean scores of the students before the application of the storytelling method in recognizing numbers and number sense through adding whole numbers. The twenty-four (24)

Groups	N	Mean	Descriptive Equivalent
Experimental	24	12.96	Satisfactory
Control	24	9.25	Did not meet expectation

respondents in the experimental group have the

pretest mean score of 12.96 and 24 respondents in the control group has the pretest mean score of 9.25. Both have the descriptive equivalence of did not meet expectations this means that the respondents need improvement on the performance in recognizing numbers and number sense through adding whole numbers with the use of storytelling. Moreover, Pace & Ortiz (2016) stated that children in second-grade has a low score in the pre-test, but there is a little change in there learning it is said that these student has no prior knowledge and need improvement.

Table 2- Pretests Mean Scores of the Experimental and Control Groups

Groups	N	Mean	Descriptive Equivalent
Experimental	24	12.96	Did not meet expectation
Control	24	9.25	Did not meet expectation

#### Posttest Mean Scores of the Experimental and Control Groups

Table 3 shows the posttest mean scores of the students who encountered storytelling method in recognizing numbers and number sense through adding whole numbers in Grade 2 in Anonang Elementary School. The experimental group has the posttest mean score of 18.33, and the control group has the posttest mean score of 10.79.

The posttest means scores between the experimental and control groups have different descriptive equivalence. The table shows that the respondents from the control group have a performance described as did not meet expectation in the test which means that the students have not improved significantly in recognizing numbers and number sense through adding whole numbers. However, the respondents from the experimental group completed satisfactorily, which means that the students did not show unsatisfactory performance in recognizing numbers and number sense through adding whole numbers with the use of storytelling.

Furthermore, Wurdinger & Marlow (2005) tells that storytelling is more effective than the traditional process of teaching to the student in giving information and assimilation.

Table 3-Posttest Mean Scores of the Experimental and Control Groups

### Significance of the Difference in the Pretest Mean Scores of the Experimental and the Control Groups

Table 4 shows the significance of the difference in the pretest mean scores of the experimental and control groups. It has a computed t-value of 3.92 with a p-value of .000. This means that the null hypothesis is rejected. This implies that there is a significant difference in the pretest means scores of the experimental and control groups. The difference of the mean score of the pretest signifies that both experimental and control group performed did not meet expectation in the test about addition wherein they do not have prior knowledge about the said topic.

Table 4-Significance of the Difference in the Pretest Mean Scores of the Experimental and the Control Groups

Pretest Mean Scores		t-value	p-value	Remark
Experimental	Control			
12.96	9.25	3.92	.000	Significant

### Significance of the Difference in the Pretest and Posttest Mean Scores of the Control Group

The table 5 shows the significance of the difference in the pretest and the posttest mean scores of the control group. The result shows a computed t-value of 1.57 with a p-value of .125, which means is the null hypothesis is accepted. This means that there is no significant difference between the mean scores of the pretest and posttest of the control group.

The difference between mean scores of the control group in the pretest and posttest signifies that the students have no improvement in their performance and the descriptive equivalence is still the same in their pretest results. NCTM (2000) cited that traditional teaching with the use of chalkboard and Board work is not effective in teaching mathematics. The school should provide rich activities with numbers and operation from the very beginning especially for the children.

Table 5-Significance of the Difference in the Pretest and the Posttest Mean Scores of the Control Group

Mean Scores of Control Group		t-value	p-value	Remark
Pretest	Posttest			
9.25	10.79	1.57	.125	Not Significant

### Significance of the Difference in the Pretest and Posttest Mean Scores of the Experimental Group

The table 6 shows the significance of the difference in the pretest and posttest mean scores of the experimental group. The result shows a computed t-value of 5.56 with a p-value of .000, which signifies that the null hypothesis is rejected. This means that there is a significant difference between the mean scores of the pretest and posttest of the experimental group. The difference between mean scores of the experimental group in the pretest and posttest signifies that engaging them in the storytelling method can make the students performed high in recognizing numbers and number sense through adding whole numbers.

According to Schiro (2004), using storytelling method is more effective than the traditional way of teaching in mathematics it enhances mathematics teaching and learning by providing in a context that is interesting, engaging and relevant.

Table 6-Significance of the Difference in the Pretest and the Posttest Mean Scores of the Experimental Group

Mean Scores of Experimental Group		t-value	p-value	Remark
Pretest	Posttest			
12.96	18.33	5.56	.000	Significant

### Significance of the Difference between the Mean Gain Scores of the Experimental and the Control Groups

Table 7 indicates the significance of the difference between the main gain scores of the experimental and the control groups. The mean gain score of the experimental groups is 5.38, while the control group has mean gain score of 1.54. The result shows a computed t-value of 3.58 with a p-value of .000, thus the the null hypothesis is rejected. This means that there is a significance difference between the mean gain score of the experimental and the control groups.

The difference of the main score of the pretest and posttest signifies that the technique applied to the experimental group has highly developed the performance of the student on the experiential method in learning addition. The increase of the student performance from the pretest compared to

the posttest does make a difference to its descriptive equivalence. This further means that the experiential method is more effective than the traditional approach in learning addition.

Moreover, Zazkis & Liljedahl (2019) storytelling are a very effective way of teaching mathematics as a learning tool for making a lesson in which mathematical operations is being specialized. It demonstrates the learner's creativity in solving mathematical operation with the use of storytelling. Learners are given more stories, stories that provide a frame or a background to mathematical problems, stories that deeply intertwine with the content, and stories that explain concepts or ideas.

Table 7-Significance of the Difference between the Mean Gain Scores of the Experimental and the Control Groups

Mean Gain Scores		t-value	p-value	Remark
Experimental	Control			
5.38	1.54	3.58	.000	Significant

## V.CONCLUSION AND RECOMMENDATIONS

- The difference of the mean score of the pretest and posttest implies that the method applied into the experimental group has highly developed the performance of the learners using the storytelling method in recognizing numbers and number sense through adding whole numbers. The increase of the student's performance from the pretest compared to the posttest does make any difference to its descriptive equivalence. This further means the storytelling method is an effective method in recognizing numbers and number sense as shown in the increase of the performance.
- In the light of the aforementioned findings and conclusion of this study, the following recommendations were offered:
- School Administration of Anonang Elementary School should implement and make use of the storytelling method to their students for the best acquisition of knowledge in recognizing numbers and number sense through adding whole numbers.
- Other school administrator may adopt the said method.
- Mathematics teachers must apply storytelling method in delivering their lessons in the classroom. Since our study is effective and there is a significant result.
- Future Researchers should conduct research to address other factors not included in the current research that may influence the use of storytelling method in recognizing numbers and number sense through adding whole numbers in Grade 2 Mathematics in Anonang Elementary School.

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