The Integration of Educational Technology in Teaching Filipino in Taganito National High School, Claver, Surigao Del Norte, Division of Surigao Del Norte: A Program

Mave Drick G. Lucaberte¹; Ronhick E. Sanchez²

¹²Department of Education, Surigao Del Norte Division, Philippines
¹ mavedrick.lucaberte@deped.gov.ph; °ronhick.sanchez@deped.gov.ph

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Abstract:
The study determined the effectiveness of integrating educational technology in teaching the Filipino Subject for Grade 9 students in Taganito National High School. The study employed a quasi-experimental research design utilizing two homogenized group comprising 30 students per group. Data gathered were analyzed using the mean and standard deviation, T-test for dependent samples, and analysis of co-variance (ANCOVA). Results revealed that the average post test scores of Grade 9 students in Filipino subject is mostly Very High both in the Control (M=9.12; SD=.38) and in the Experimental (M=9.41; SD=.31). Learning performance of Grade 9 students in the Experimental Group is significantly higher (p=.002) compared to that of the Control Group. Therefore, the use of educational technology in teaching the Filipino subject is highly effective. Students’ learning achievement in Filipino subject is significantly enhanced with the effective use of educational technology in instruction. Thus, it is recommended that the Grade 9 teachers handling the Filipino subjects are enjoined to effectively use educational technology in teaching the subject. Moreover, the learning modules used in this study may be adopted by other Filipino teachers as teaching interventions in teaching the Grade 9 students.

Keywords: Integration, Educational Technology, Teaching Filipino, Taganito National High School

I. INTRODUCTION

The use of educational technology (Edtech) has become an integral part of the 21st century teaching and learning. Nowadays, attaining quality education is almost impossible without technology – an inseparable part of young generation’s learning activities across all subjects (Henessy, 2006; Moser, 2007; Beak, 2008). Along this vein, the teaching of Filipino subjects is assumed to be more effective when educational technologies are adequately utilized for instruction by the Filipino teachers.

The aforementioned assumption was supported by several studies which revealed positive effects of educational technology in the teaching and learning process. This technology is aimed to develop capability of students by improving students’ attitude, enthusiasm and engagement, classroom content and improved student’s retention. Researches proved that attractive teaching methods can leave long-lasting effects on the minds of children and this could happen with the integration of educational technology in classroom instruction. Findings proved that the majority of the teachers and students admitted that the use of modern educational technology could affect positively to students and create curiosity towards learning (Beak, 2008; Richey, 2008; Faizi, 2013).

In addition, several researches reported that there are many benefits of educational technology. Among these are the easy-to-access course materials, motivation of the student by instant feedback, improvement in the writing skill, easiness in understanding the specific subject and the most important one is the more amenable structure to measure the outcomes and improvement in monitoring and maintenance of students’ records. Thus, with the many benefits of the use of educational technology, it is rest assured that learners have higher academic achievement under schools which have more extensively implemented the educational technology program (Richey, 2008; Faizi, 2013).
Cognizant of the importance and benefits derived from the integration of educational technology in instruction, the Philippine government agencies such as the Department of Education (DepEd) and the Commission on Higher Education (CHED) made several programs and activities coined as Information Communication Technology (ICT) in order to encourage teachers and learning facilitators to integrate educational technology in the instruction at all levels. Studies implied that teacher who fail to integrate educational technology in instruction deprive their students of quality learning (Swain, 2006; Friedman, 2006; Lesaca, 2014).

In the division of Surigao del Norte and Surigao City, it was found that ICT implementation is not that extensive because of lack of expertise among the Filipino subject teachers to use educational technology efficiently in classroom instruction (Penaloza, 2014; Lesaca, 2014). This implies scientific investigation to find out the effectiveness of educational technologies in the instruction of Filipino. The present study hypothesized that learning performance of students in Filipino subjects is more efficient with the more effective integration of educational technologies. Thus, an experimental study is important to demonstrate the effectiveness of educational technology integration and consequently convince teachers to apply this in teaching the subjects.

This is deemed necessary because this would generate local knowledge which is useful in conceptualizing a more responsive and contextualized educational technology integration program to enhance instruction. The study was focused on Filipino 9 subject basically because it is of keen interest by the researcher being a Filipino teacher.

II. STATEMENT OF THE PROBLEM

The study determined the effectiveness of the integration of educational technology in teaching Filipino as applied in the condition of Taganito National High School, Claver, Surigao del Norte, Division of Surigao del Norte. Specifically, the study answered the following questions:

1. What is the Pre-test Scores of the Grade 9 Students in Filipino under the control and the experimental group?
2. What is the Post Test Scores of the Grade 9 Students in Filipino under the control and the experimental group?
3. Is there a significant difference in the Post Test Scores between the control and the experimental groups co-varying the pretest scores?
4. What enhancement can be proposed based on the findings?

Hypothesis

\( H_0: \) There no significant difference in the Post Test Scores between the control and the experimental groups co-varying the pretest scores.

III. METHODS

Research Design

The study made use of a quasi-experimental research design to determine the effect of educational technology on the learning achievement of students. The quasi-experimental design is deemed appropriate in investigating cause and effect relationship such as the effect of using educational technology in instruction on the learning achievement of students.

Respondents and Sampling Design

The subjects of the experimental study were the Grade 9 Section A students in Filipino Class Subject of Taganito National High School district of Claver, Division of Surigao del Norte, School Year 2016-2017. The study was conducted in a natural setting classroom environment where students were grouped according to their section. The class is considered homogeneous comprising the fast, average and low learners. As to the teacher respondents, total population of Filipino teachers in Taganito National High School and the school head were included.

The control of the intervening variables was ensured by involving only one section, with one teacher handling the class, and using the lecture as teaching strategy. Homogenization of respondents was done using the statistical approach namely the Analysis of Covariance where learning achievement of students under the control and experimental group is compared using the post-test covariation their pre-test.
Research Instruments

Teacher-made tests were used in measuring the learning achievement of students. The study covered five topics where each of the topic contained 10 items. These were used during the pretest and another 10 items test were employed for the post-test both the control and the experimental group.

The tests were validated by the school head, Filipino supervisor, and one Filipino teacher. Pilot testing was also done to improve the reliability and validity of the tests.

Experimental Procedure

The study made use of one group design employing the pre-test and post-test technique. A total of 5 topics were included in this study covering the 4th Grading Period starting January until February 2017. The topics were focused on the Novel “Noli Me Tangere” starting from Chapter 1-17 and also focused on Grammar.

Five topics namely were facilitated using the traditional educational technology specifically chalk, manila paper and writing board. The other five topics were delivered with the aid of educational technology specifically white board, computer, PowerPoint presentations. Both groups received lecture as teaching strategy.

The same teacher was handling the subjects to ensure uniformity of teaching competence. A module for each topic was developed for both the control and experimental groups. The module indicates the learning activities and how educational technologies were integrated in instruction. A pre-test was conducted before instruction and a post test was also administered after instruction. The pre-test and post-tests results were the data used to measure learning achievement of students.

Data Gathering Procedure

The researcher asked permit from the School Principal for the conduct the experimental study and the administration of the survey using a structured questionnaire involving the Filipino teachers. Upon approval, the researcher arranged schedule of interview with the respondents. The proponent personally administered the tests and the survey. The researcher personally administered the pre-test and post-test then given to the respondents. After answering the questionnaire, the researcher was retrieved the filled-up questionnaire and tested the significant difference of the Pre-test and Post Test of the two groups. For the pre-test and post-test, the results were recorded right after checking the tests. Data gathered were kept with utmost confidentiality and used only to serve the purpose of the present study.

Statistical Tools

Data gathered were analyzed using the following tools:

- **Mean and Standard Deviation** was employed to determine the learning achievement of students based on the pre-test and post-test results;
- **T-test for dependent samples** was used in determining whether significant difference in the assessment exists between the pretest and post test scores;
- **Analysis of co-variance (ANCOVA)** was employed in determining the significant difference between the post test scores of the control and the experimental group co-variating the pretest scores.

### IV. RESULTS AND DISCUSSION

This chapter presents the results and analyses the data gathered in this study.

#### Pretest and Post test Scores

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Description</th>
<th>Pretest Frequency</th>
<th>Posttest Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.01 – 9.50</td>
<td>Very High</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>8.61 – 9.00</td>
<td>High</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>8.01 – 8.60</td>
<td>Moderate</td>
<td>13</td>
<td>7</td>
</tr>
</tbody>
</table>
As shown in Table 1, the Grade 9 students under the Control Group posted an average of 8.38 and a standard deviation of .38 during the pretest. This performance level is described Moderate. After receiving the instruction, the average post-test scores is 9.12 with a standard deviation of .37 described as Very High. Evidently, the study revealed an increase of learning performance of students in the control group comparing their pretest and post test scores. It can be seen that most of the students (13 out 30) achieved Moderate level during the pretest and mostly Very (18 out of 30) during the post test.

Result of the T-test for independent samples presented in Table 2 revealed that the increase of learning performance of students under the control group is statistically significant based on the p-value of .000 which is lower than the critical value set at .05 level of significance.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std.Dv.</th>
<th>N</th>
<th>Diff.</th>
<th>Std.Dv. Diff.</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>pretest</td>
<td>8.38</td>
<td>0.38</td>
<td>30</td>
<td>-0.74</td>
<td>0.46</td>
<td>-8.72</td>
<td>29</td>
<td>0.000</td>
</tr>
<tr>
<td>posttest</td>
<td>9.12</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The significant increase in the pretest and the post test scores of Grade 9 students in Filipino indicates sufficient learning achievement in the Subject in spite the absence of educational technology in instruction. This finding however provides basis for comparison in determining the effectiveness of integrating educational technology as presented in Table 3.

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Description</th>
<th>Pretest Frequency</th>
<th>Posttest Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.51 - 10</td>
<td>Outstanding</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>9.01 – 9.50</td>
<td>Very High</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>8.61 – 9.00</td>
<td>High</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>8.01 – 8.60</td>
<td>Moderate</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>7.60 – 8.00</td>
<td>Fair</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>8.15</td>
<td>9.41</td>
<td>(Moderate)</td>
</tr>
</tbody>
</table>

As revealed in the Table, the Grade 9 students under the Experimental Group fetched an average of 8.15 and a standard deviation of .35 during the pretest. Like the Control Group, this performance level is described Moderate. It is inspiring to note that after receiving the instruction with educational technology, the average post-test scores reached as far as 9.41 with a standard deviation of .31 generally described as Very High.

The study found that the majority of the Grade 9 students under the Experimental numbering 16 out of 30 achieved Very High level of learning performance. Adding to this, a good number (7 out of 30) performed the Outstanding Level, five others are achieving under High Level and only very few (2 out of 30) belonged to the Moderate level.
TABLE IV
PRETEST AND POST TEST DIFFERENCE OF THE EXPERIMENTAL GROUP

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std.Dv.</th>
<th>N</th>
<th>Diff.</th>
<th>Std.Dv.</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>pretest</td>
<td>8.15</td>
<td>0.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>posttest</td>
<td>9.41</td>
<td>0.31</td>
<td>30</td>
<td>-1.25</td>
<td>0.34</td>
<td>-20.18</td>
<td>29</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The p-value obtained is .000 indicating that the increase in the learning performance of students under the experimental group is statistically significant. This further affirmed that students learning performance is very sufficient with instructional delivery applied with educational technology.

Looking at the pretest and post test scores of the Control and the Experimental groups, it can be observed that both groups revealed significant increase of learning achievement attributed to the instructional interventions given.

To finally ascertain the effectiveness of both treatments which is the traditional (control) and the use of educational technology (experimental), the study employed a more robust and sophisticated inferential tool using the analysis of co-variance (ANCOVA). ANCOVA analysis is presented in Table 5.

TABLE V
ANCOVA OF THE POST TEST SCORES BETWEEN THE TWO GROUPS

<table>
<thead>
<tr>
<th>Mean 1</th>
<th>Mean 2</th>
<th>t-value</th>
<th>df</th>
<th>p-value</th>
<th>F-ratio var</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>posttest vs. posttest</td>
<td>9.12</td>
<td>9.41</td>
<td>-3.24</td>
<td>58</td>
<td>0.002</td>
<td>1.46</td>
</tr>
</tbody>
</table>

As presented in Table 5, there is significant difference in the post test scores between the Control and the Experimental groups of Grade 9 students in Filipino subjects based on the p-value of .002, co-varying the pretest scores. The study found that students’ learning performance under the Experimental class where instructional delivery is applied with educational technology, is higher (9.41), compared to those in the Control class where instructional delivery is traditional.

Based on the findings, concludes that the use of educational technology in teaching Filipino subject is very effective in enhancing the learning achievement of the Grade 9 students. Students learned better in Filipino subject when instructional delivery is effectively aided with educational technology.

The present finding corroborates previous findings of studies in the foreign setting and national settings emphasizing the need to integrate modern educational technologies in instruction at all levels across all fields of discipline (Moser, 2007; Beak, 2008; Richey, 2008; Faizi, 2013).

V. CONCLUSION

Average post test scores of Grade 9 students in Filipino subject is mostly Very High both in the Control (M=9.12; Sd=.38) and in the Experimental (M=9.41; Sd=.31). Learning performance of Grade 9 students in the Experimental Group is significantly higher (p=.002) compared to that of the Control Group. Therefore, it is concluded that the use of educational technology in teaching the Filipino subject is highly effective. Students’ learning achievement in Filipino subject is significantly enhanced with the effective use of educational technology in instruction. Thus, it is recommended that Grade 9 teachers handling the Filipino subjects are enjoined to effectively use educational technology in teaching the subject. Moreover, the learning modules used in this study may be adopted by other Filipino teachers as teaching interventions in teaching the Grade 9 students.

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References


