Information Communication Technology Integration in Enhancing Reading Using the Marungko Approach

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DOI: 10.29322/IJSRP.14.05.2024.p14932
10.29322/IJSRP.14.05.2023.p14932

ABSTRACT

The study aimed to determine the pupils’ reading performance through Information Communication Technology integration in enhancing reading using the Marungko Approach of the Grade 1 pupils of the two (2) schools in South Butuan District I, Division of Butuan City. Data analysis utilized SPSS software (Statistical Package for the Social Sciences), It utilized the one-group pretest-posttest design and Early Grade Reading Assessment (EGRA) as an assessment tool. The study included 38 participants to identify the effectiveness of the intervention. The study revealed that technology integration in the Marungko approach had a positive impact on the pupils’ reading skills. Before employing the strategy, some pupils were struggling with identifying letters, letter sounds, initial sounds, reading familiar words, reading non-words, oral reading fluency, and oral reading comprehension. However, after the employment of the strategy, the pupils have achieved a high level of letter sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension. This implies that there is a huge increase in the reading performance of the grade 1 pupils after integrating ICT using the Marungko Approach, suggesting that the strategy is effective as an intervention in teaching reading. Further, it is recommended that teachers integrate this strategy into their classes to help pupils who fall below their expected reading level.

Keywords: ICT integration, marungko approach, reading skill, reading performance, assessment

INTRODUCTION

Reading is a skill one should master to gain learning beyond the four-walled classroom. One can use it anywhere he goes and anytime he wants. However, reading skill is not something that is learned overnight. It is a process of identifying the letters and producing and blending the sounds until one can produce the words. When he can do it, it will develop into understanding the meaning of the words that will lead to comprehension (Peñol, 2019). Rahman et al. (2022) stated that reading is an essential part of literacy. The learners need to master since it is a way of improving one’s comprehension and developing analytical abilities. It also stimulates your mind to ignite your imagination and enjoy experiences without cost as if you travel around.

In line with this, teachers must widen and advance their knowledge and skills in this field because some of the pupils still have difficulty understanding what they are reading. According to the World Bank report "Education in Indonesia- From Crisis to Recovery,” reading comprehension among Indonesian students is incredibly low (Yarrow et al., 2020; Nanda & Azmy, 2020). The researchers' observations at the school, the student's reading comprehension is still below average. Both the student's lack of interest in reading the book and the teacher's tedious technique of teaching reading were to blame for this. These issues prevented the children from understanding the content of what they read because they prevented them from understanding the reading materials.

According to the results of the 2022 Program for International Student Assessment (PISA) test, the Philippines performed poorly in reading comprehension, mathematics, and science, placing it in the bottom 10 out of 81 countries for the second consecutive assessment. The country also showed very slight improvement. The Philippines was placed 76th out of 81 countries for 2022 reading
comprehension, after being the lowest out of 79 participating countries in 2018. Despite rising in the rankings, top-performing students’ (TPS) performance nationwide did not increase in percentage points, according to test indicators, while low-performing students’ (LPS) reading comprehension proficiency levels decreased by 4.3 percent. CARAGA Region was also one of the regions that did not achieve a mean score higher than the National average which is 340 points (Pardo, 2022). In Butuan City, Dr. Dedumo, Schools Division Superintendent said that 30% of the children are at the "frustration level," or those who need to work on their reading skills. There are still pupils and students not only in the elementary level but also in the secondary who have difficulty in reading (PIA, 2022).

Hence, the problem in reading urged the researcher to conduct this study to determine the effect of integrating Information Communication Technology in Enhancing Reading Using the Marungko Approach. The Marungko Approach is a method intended to provide students the tools they need to become better readers. It also acts as a manual for teachers preparing to teach reading and by integrating technology in teaching reading enhance the instruction. Utilize it to offer individualized learning experiences, extra practice, and concept reinforcement. Recall that although technology can be a potent instrument, careful integration makes sure that it enriches rather than takes over the reading classroom experience.

Furthermore, the Marungko Approach is the choice of the researcher in teaching reading through the use of multimedia or video since the children are very much exposed to multimedia, and as classroom teachers, they should adopt the trend in teaching for them to arouse their interest, especially in reading which requires motivation (Laurente, 2021). It is a method intended to provide pupils the tools they need to become better readers. It also acts as a manual for teachers preparing to teach reading.

OBJECTIVES

The study intends to explore the level of the reading performance of grade 1 pupils before and after Information Technology Integration. In particular, it aims to address the four primary objectives of this study. Firstly, the study aims to identify the level of reading performance of grade 1 pupils before the Information Communication Technology Integration in the Marungko Approach in terms of letter name knowledge, letter sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension. Secondly, the study aims to determine the level of reading performance of grade 1 pupils after the Information Communication Technology Integration in Marungko Approach in terms of letter name knowledge, letter-sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension. Thirdly, the study tends to correlate the level of reading comprehension before and after the integration of Communication Technology in the Marungko Approach, and finally the study propose a reading intervention program based on the gathered data.

METHODOLOGY

Data analysis utilized was the SPSS software (Statistical Package for the Social Sciences), since it was commonly used for t-tests due to its robust statistical capabilities and user-friendly interface. This study used quantitative – descriptive research design because it described the significant difference of pre-test and post-test of the reading performance of the learners. It utilized Early Grade Reading Assessment (EGRA) as an assessment tool and Animated Reading Material by Learning Resource Management and Development Section (LRMDS) of DepEd Butuan City Division as a medium of instruction in reading intervention during the daily reading exercises, in connection to the School Project (RUBBED) Reading, Understanding, and Bridging for Better Education. The same material was administered in Post – test to determine the effectiveness of ICT in the Marungko Approach as a reading intervention strategy. The participants in the study were the Grade 1 pupils of Imelda Mar Elementary School and Santa Cruz Elementary School, one section for each school. The participants were 15 males and 23 females. There were a total of 38 participants in this study.
RESULTS

Problem 1. The Reading Performance of Grade 1 Pupils Before the Information Communication Technology Integration in Marungko Approach.

Figure 3 presents the frequency distribution of the level of pupils’ reading performance before the employment of the strategy.

![Figure 3. Pre-test Reading Performance](image)

Figure 3 shows that before the integration of the Marungko Approach 21 pupils were frustrated with identifying letters, 2 pupils required instructional support, and 15 pupils were able to identify letters independently. Nine pupils were frustrated with identifying letter sounds, 10 pupils required instructional support, and 24 pupils were able to identify letter sounds independently. Thirteen pupils were frustrated with identifying initial sounds, 10 pupils required instructional support, and 15 pupils were able to identify initial sounds independently. Eight pupils were frustrated with reading familiar words, 4 pupils required instructional support, and 26 pupils were able to read familiar words independently. Thirteen pupils were frustrated with reading non-words, 14 pupils required instructional support, and 11 pupils were able to read non-words independently. Eleven pupils were frustrated with oral reading fluency, 16 pupils required instructional support, and 11 pupils were able to read fluently independently. Twenty - two pupils were frustrated with oral reading comprehension, 8 pupils required instructional support, and 8 pupils were able to comprehend independently.

The data provided suggests that a significant number of pupils were experiencing frustration in letter name knowledge and reading comprehension before the integration of the Marungko Approach. This result was understandable due to a variety of factors since the participants came from kindergarten level in the previous year. It is important to identify and develop targeted interventions to address and better meet the needs of diverse learners when it comes to reading.

It is also worth noting that a large number of pupils are independent in letter- sound knowledge, initial sound identification, and familiar word reading. This also suggests that they have a solid foundation in phonics and are well-equipped to tackle more complex reading tasks. Teachers could build on this foundation by providing opportunities for pupils to read more challenging texts, engage in discussions about the material, and develop their comprehension skills.
These findings are related to the study conducted by Dr. Isabel Yap–Samson (2024), the Marungko Approach emphasizes a phonosyllabic method for teaching reading in the Philippines, specifically designed for Filipino children. It focuses on the mastery of individual letter sounds and their blending into syllables and words. The approach is grounded in the belief that reading is a complex process involving the integration of various skills, including phonemic awareness, phonics, vocabulary development, fluency, and comprehension.

Furthermore, by emphasizing phonics instruction, the Marungko approach equips students with the skills needed to decode unfamiliar words independently. This empowers early readers to read with greater accuracy, fluency, and comprehension. The present study suggests that teaching beginning reading must begin with phonic sounds to have a better foundation in reading.

Problem 2. The Reading Performance of Grade 1 Pupils After the Information Communication Technology Integration in Marungko Approach.

Figure 4 presents the frequency distribution of the level of pupils’ reading performance after the employment of the strategy.

The data shows the reading performance of Grade 1 pupils after the integration of information technology in Marungko approach. It is categorized into different reading skills such as letter name knowledge, letter sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension. The data is further divided into three categories: frustration, instructional, and independent.

The results show that the pupils have a high level of letter sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension. The pupils have 0 frustration and 0 instructional levels in letter sound knowledge and initial sound identification. The pupils have 0 frustration and 1 instructional level in familiar word reading. The pupils have 1 frustration and 0 instructional level in non-word reading. The pupils have 0 frustration and 4 instructional levels in oral reading fluency. The pupils have 0 frustration and 7 instructional levels in oral reading comprehension.

The figure reveals and suggests that the integration of information technology in Marungko approach has a positive impact on the reading performance of Grade 1 pupils. In fact, it is supported by the several studies that have examined the impact of technology integration on reading comprehension. One such study by Boudett and City (2015) found that technology can be an effective tool for improving reading comprehension, especially for struggling readers. Another study by Alzahrani and Alghamdi (2019) found that the use of technology in the classroom can help students develop critical thinking skills and improve their reading comprehension.
However, Jose and Raja (2015) explained that teacher involvement in the reading process is a must since it is very essential for pupils to develop a love for reading and to improve their reading skills. Teachers can help pupils learn how to read critically, recognize new words, and select appropriate reading materials based on their age, time, and capacity.

Problem 3. The Significant Difference Between the Reading Comprehension Before and After the Integration of Information Communication Technology in the Marungko Approach.

Figure 5 presents the comparison between the frequency distribution of the reading comprehension before and after the employment of the strategy.

The results showed that the technology integration in the Marungko approach had a positive impact on the pupils’ reading skills. Before employing the strategy, some pupils were struggling with identifying letters, letter sounds, initial sounds, reading familiar words, reading non-words, oral reading fluency, and oral reading comprehension. However, after the strategy employed, the pupils have shown significant improvement in their reading skills. They have achieved a high level of letter sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension.

It is also interesting to note that the pupils have zero frustration and zero instructional levels in letter sound knowledge and initial sound identification. They have zero frustration and one instructional level in familiar word reading. The pupils have one frustration and zero instructional level in non-word reading. They have zero frustration and four instructional levels in oral reading fluency. Lastly, they have zero frustration and seven instructional levels in oral reading comprehension.

This implies that there is a huge increase in the reading performance of the grade 1 pupils after integrating Information Communication Technology using the Marungko approach. It is great evidence that the strategy is effective as an intervention in teaching reading to the primary grades.

This is supported by the study of Alauya and Basmayor (2023) who found that there is a significant difference between the pretest and posttest scores after the integration of the Marungko Approach.

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10.29322/IJSRP.14.05.2023.p14932
Another study conducted by Rubin and Travero (2022) found that teaching reading could potentially enhance the learning of the pupils in this subject because the learners now can witness how the letters or words would be pronounced correctly through the utilization of video lessons in the teaching learning process particularly teaching the skills of the learners based on the most learning competencies.

Table 2 presents the significant difference between the reading comprehension before and after the integration of Information Communication Technology in the Marungko Approach.

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Grouping Variables</th>
<th>Mean</th>
<th>P value statistics</th>
<th>Significant</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Name Knowledge</td>
<td>Pretest</td>
<td>55.684</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>85.9737</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter Sound Knowledge</td>
<td>Pretest</td>
<td>76.9474</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>98.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Sound Identification</td>
<td>Pretest</td>
<td>64.7368</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>97.6316</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiar Word Reading</td>
<td>Pretest</td>
<td>72.3684</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>97.2632</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-word Reading</td>
<td>Pretest</td>
<td>63.9474</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>94.6842</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral Reading Fluency</td>
<td>Pretest</td>
<td>62.3158</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>90.9211</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>Pretest</td>
<td>46.3158</td>
<td>.000</td>
<td>Significant</td>
<td>Reject Ho</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>87.8947</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Tested at 0.05 level of significance*

As revealed in the table, all reading components’ p-value is less than 0.05 level of significance. This signifies that there are significant differences between the pre – test and post test results of all reading components. This further concludes that Information Communication Technology Integration in the Marungko Approach has greatly improved reading comprehension of pupils, hence it is an effective strategy in teaching reading.

Boltron and Ramos (2021) emphasized that the development of reading competence among young children is fundamentally crucial in improving educational outcomes and has far-reaching implications. Thus, this study contends that this reading comprehension problem can be intervened and corrected by educators at the ground level by developing reading comprehension skills through an effective beginning reading teaching approach for its learners at the beginning reading stage to authentically develop the foundational reading competencies of the learners such as the ability to identify letter name, identify letter sound, discriminate initial sound, read familiar words and read oral passage before promoting them to the next level.

It is in this context that beginning reading teachers may explore beginning reading teaching approaches such as the Marungko approach to help improve in the teaching of these foundational reading competencies.

Problem 4. Based on the data gathered, what is the Reading intervention Program?

The findings of the study suggest that if a reading material intervention program is performed well, it can increase the reading performance of the pupils. The suggested reading intervention program for the Grade 1 pupils is attached.

INFORMATION COMMUNICATION TECHNOLOGY INTEGRATION IN ENHANCING READING USING THE MARUNGKO APPROACH

I. Rationale

One of the major problems in the Department of Education in the Philippines is the reading comprehension. This problem has become more serious due to the COVID-19 pandemic. However, Communities, legislators, and educators must work together to overcome the learning gaps created by extended school closures in order to address reading comprehension issues.

Marungko Approach is a teaching method that combines syllabic and phonemic approaches, along visual aids and hands on activities to help children develop their reading skills. The Approach has been shown to be an effective in improving reading skills and literacy.
In creating localized reading intervention program using the Marungko Approach and Information Communication Technology (ICT), PEACA must be considered. P – means Personalization, ICT can be used to personalized learning by providing pupils with reading materials that are appropriate for their reading level and interests; E – means Engagement, the use of ICT can make learning more engaging and interactive which can help improve pupils’ motivation and interest in reading; A – means Accessibility, the use of ICT can make reading materials more accessible to pupils especially we can send it to the online flat form and can use it anywhere and anytime; C – means Collaboration, ICT can be used to facilitate collaboration among pupils and teachers, which can help create a more supportive learning environment and the last but not the least is A – means Assessment, ICT can be used to assess pupils’ reading skills and progress which can help teachers identify areas where pupils need additional support. By integrating ICT with the Marungko Approach, pupils can learn in a more engaging and interactive way, which can help improve their reading skills and overall academic performance.

The most appropriate measuring tool will be used in this program is the Early Grade Reading Assessment tool (EGRA) which is an orally – administered test that measures basic reading skills such as letter sound identification, word and non – word decoding, and reading comprehension. This tool aims to track progress of learning or monitor the development of early literacy and numeracy competencies over time in selected Mother tongues.

Based on the study, Information Communication Technology using the Marungko Approach is an effective strategy to enhance the reading performance of the pupils. In this strategy, the teachers play a crucial role in teaching reading. They help pupils develop a love for reading and to improve their reading skills. Teachers can help pupils learn how to read critically, recognize new words, and select appropriate reading materials based on their age, time, and capacity.

II. Description
This intervention program is comprised of three phases namely the pre - test, program implementation/ intervention, and post - test. Each phase is designed to ensure the program’s effectiveness and sustainability and comprises three targeted activities. The first phase, first week of the first quarter pre – test must be administered to check the reading level of the grade 1 pupils using the Early Grade Reading Assessment tool (EGRA). The second phase, after the pre – test, intervention must be administered daily during preferred reading time. Each day must accomplish 1 lesson in project Animated Reading Material (ARM) anchored to the Marungko Approach made by DepEd Butuan City Division. Lastly, the third phase, after the intervention Post Test of the same tool must be administered to check the progress of the reading performance of the learners.

III. Goals and Objectives
The main goal to be flexible and can be adapted to meet the specific needs of the pupils. By integrating information communication technology with the Marungko Approach, pupils can learn in a more engaging and interactive way, which can help improve their reading skills and overall academic performance. This intervention program has the following objectives: firstly, to administer the pretest to check the reading level of the grade 1 pupils using the Early Grade Reading Assessment tool (EGRA). Secondly, to apply the intervention using Information Communication Technology in enhancing reading using the Marungko Approach. After the pre – test, intervention must be administered daily during preferred reading time. each day must accomplish 1 lesson in project Animated Reading Material (ARM) anchored to the Marungko Approach made by DepEd Butuan City Division. Lastly, to assess the progress of the reading performance of the pupils after the intervention was administered.

IV. Implementation Scheme

![Implementation Scheme Diagram]
## Pre-Intervention Phase

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Activities</th>
<th>Time Frame</th>
<th>Resources</th>
<th>Budget</th>
<th>Sources</th>
<th>Persons Involved</th>
<th>Expected Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>To assess the reading level of the pupils</td>
<td>Assessment of pupils’ reading level (Frustration, Instructional, Independent)</td>
<td>August 2024</td>
<td>Printed Reading Material with EGRA tool.</td>
<td>P1,500.00</td>
<td>MOOE GPTA Other funds</td>
<td>Teacher and pupils</td>
<td>Pre-test result using EGRA Measuring tool.</td>
</tr>
<tr>
<td>To prepare the materials</td>
<td>EGRA tool Animated Reading Material (ARM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancement of the capacity of the Teachers</td>
<td>Teachers will have a training-workshop on how to conduct the Animated Reading Material.</td>
<td>August 2024</td>
<td>Laptop, projector</td>
<td>P1000.00</td>
<td>MOOE GPTA Other funds</td>
<td>Teacher</td>
<td>Reading Material</td>
</tr>
</tbody>
</table>

## Intervention Phase

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Activities</th>
<th>Time Frame</th>
<th>Resources</th>
<th>Budget</th>
<th>Sources</th>
<th>Persons Involved</th>
<th>Expected Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct reading intervention.</td>
<td>Read Using Project Animated Reading Material (ARM) By DepEd Butuan</td>
<td>September – November 2024</td>
<td>Laptop, TV Projector</td>
<td>P5,000.00</td>
<td>MOOE GPTA Other funds</td>
<td>Program coordinators, school head, ICT Teachers</td>
<td>More engaging and effective learning outcome.</td>
</tr>
</tbody>
</table>

## Post-Intervention Phase

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Activities</th>
<th>Time Frame</th>
<th>Resources</th>
<th>Budget</th>
<th>Sources</th>
<th>Persons Involved</th>
<th>Expected Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>To assess the reading level of the pupils.</td>
<td>Assessment of pupils reading level (Frustration, Instructional, Independent)</td>
<td>December 2024</td>
<td>Checklist</td>
<td>P2,000.00</td>
<td>MOOE GPTA Other funds</td>
<td>Program coordinator, School head, teachers, parents and pupils, LGU</td>
<td>High Progress on Reading Development of the learners.</td>
</tr>
</tbody>
</table>
CONCLUSION

Before the Information Communication Technology Integration in Enhancing the Reading Performance using the Marungko approach was conducted, most of the pupils are experiencing frustration in letter name knowledge and reading comprehension and most of the pupils were instructional in Non-word reading and oral reading comprehension using Marungko Approach. Despite of the struggle in some components it is also worth noting that a large number of pupils are independent in letter sound knowledge, initial sound identification, and familiar word reading. This means that the learners can read even though they have no idea on the letter name knowledge.

After the Information Communication Technology Integration in Enhancing the Reading Performance using the Marungko approach was conducted, pupils have a high level of letter sound knowledge, initial sound identification, familiar word reading, non-word reading, oral reading fluency, and oral reading comprehension. The pupils have zero frustration and zero instructional levels in letter sound knowledge and initial sound identification. They have zero frustration and one instructional level in familiar word reading. The pupils have one frustration and zero instructional level in non-word reading. They have zero frustration and four instructional levels in oral reading fluency. Lastly, they have zero frustration and seven instructional levels in oral reading comprehension.

A huge increase in the reading performance of the grade 1 pupils after integrating Information Communication Technology in Enhancing Reading using the Marungko approach highlighted that the strategy is effective as an intervention in teaching reading to the primary grades.

Based on the results of the study, the researcher crafted a reading intervention program that highlighted the integration of Information Communication Technology in enhancing reading in the Marungko Approach. This program hoped to improve the reading performance of the pupils not just in grade 1 classes, but it could also be used as a basis in designing reading programs for all grade levels as its effectiveness was already confirmed.

REFERENCES


