THE RESULTS OF THE USE OF TECHNOLOGICAL MEDIA TO DIRECT AND MONITOR THE RECITATION OF THE MULTIPLICATION TABLE OF THE SECOND-GRADE STUDENTS AT DEMONSTRATION SCHOOL, SUAN SUNANDHA RAJABHAT UNIVERSITY

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ABSTRACT

This research aims to use technological media to direct and monitor the recitation of the multiplication table of the second-grade students at Demonstration School, Suan Sunandha Rajabhat University, and to study the second-grade students and parents' opinions toward the use of technological media to direct and monitor the recitation of the multiplication table. The samples used in this research included 34 second-grade students studying at Demonstration School, Suan Sunandha Rajabhat University in semester 1of the 2022 academic year. The samples were obtained by using simple random sampling randomized units of 1 classroom. The tools used to collect data included line application, test reports of the recitation of the multiplication table, and questionnaires on the second-grade students and parents' opinions toward the use of technological media to direct and monitor the recitation of the multiplication table. The statistics used to analyze the data were percentage, mean ( ), and standard deviation (S.D.).

The results showed that 1. A total of 25 from 34 students were able to recite the multiplication table fluently, with a percentage of 73.53, and 9 students were not fluent, with a percentage of 26.47. 2. Students and parents had comments on the use of technological media to direct and monitor the recitation of the multiplication table at a high level ($\overline{x}$ = 4.32, S.D. = 0.09). When considering each item, it was found that parents knew their students' progress in reciting the multiplication table at the highest level ($\overline{x}$ = 4.74, S.D. = 0.48). Next, the current results were reported was at the highest level ($\overline{x}$ = 4.65, S.D. = 0.54), and the parents satisfied with directing and monitoring the recitation of the multiplication table with the use of technological media at the highest level ($\overline{x}$ = 4.62 S.D. = 0.49).

Keywords: multiplication table, technological media, the 2nd graders

INTRODUCTION

Today is the age of information, a world without borders. Competition and development occurred in all aspects whether the economic side, politics, governance, technology, and education with are important factors in the development of people in society. According to the Basic Education Core Curriculum, the mathematics' indicators, and strands (Revised Edition

2017) encourage learners to have the skills they need for learning in the 21st century: preparing learners for critical thinking skills, critical thinking solving, creating, using technology, communication, and collaboration. To manage successful math learning, learners must be prepared to learn things, expecting the quality of learners at the elementary, primary, and high school levels to have the skills of addition, multiplication, and subtraction, etc., and be able to use them in different situations (Office of the Basic Education Commission, 2017).

Demonstration School, Suan Sunandha Rajabhat University has restructured the curriculum in the mathematics learning area to strengthen academic strength by increasing the number of teaching and learning hours. For students in grades 1-6, they spend 5 hours a week studying mathematics, as well as creating a road map of mathematics learning areas to enhance academic achievement and promote their academic potential in terms of math content and the use of knowledge to solve everyday problems, as well as encouraging students to use math skills and processes and have a positive attitude towards mathematics. The school believes that if students have a positive attitude towards mathematics and teachers, it will be easy to organize or add a variety of experiences to students, with the second-grade level stipulating that when students finish second grade, they must recite the multiplication table fluently and accurately. Moreover, if students can recite the multiplication table, it encourages students to be able to think more quickly. Allowing students to memorize multiplication tables precisely paves the way for students' computational thinking. When studying at a higher level, it is still necessary to use the multiplication table to learn, but if you cannot recite the multiplication table, it will cause problems with multiplication, division, and other matters as well. By asking students and mathematics teachers at elementary schools, it was found that more than half of the students cannot recite the multiplication table or if they could recite it, but it took a long time. This problem is consistent with Vibharat Sankrit (2011) that concludes the interview with the second-grade math teachers at Surin Kindergarten School. It was found that students had poor multiplication and division skills, with most students multiplying and dividing wrongly or perhaps doing so very slowly. This is mainly due to the inability to recite multiplication tables which is similar to the average student. As a result of this problem, the researcher sought a way to enable the second-grade students at Suan Sunandha Rajabhat University to recite the multiplication table according to the road map of the defined math learning area.

As a result of the implementation of the road map for the 2021 school year, which is the outbreak situation of COVID-19. The researcher required students to rehearse the 2-to-9 multiplication table and take the recitation exam at their own pace via Google classroom, with a three-and-a-half-month rehearsal and exam duration, with a two-month exam period. It was found that only 54 percent of students were able to recite the multiplication table fluently, 31 percent were not fluent in reciting and 15 percent could not recite. When the researcher analyzed the reasons why students could not recite the multiplication table, it may have been due to the lack of supervision during rehearsal and exam time.

A line application is an application used to communicate with another person, who uses the Internet to communicate. They can now talk face-to-face with each other by turning on the camera. During the pandemic COVID-19, the school requires class teachers to make line groups in each room to communicate between parents and class teachers, which is effective communication.

Therefore, the researcher is interested in using the technological media “line application” to direct and monitor the recitation of the multiplication table of the second-grade students, at Demonstration School, Suan Sunandha Rajabhat University. For the purpose that to achieve the objectives of a road map of the defined mathematics learning strands.

LITERATURE REVIEWS

Technology Media is a digital and electronic device and tool used to convey or communicate information and news such as televisions, computers, smartphones, notebooks, tablet PCs, video game consoles, DVD players, music players, etc. Web programs, interactive whiteboards, digital cameras, etc.

Interactive media is a medium in which children and program systems can interact with each other in different ways, making content or information adjust according to the user's choice, which may be in digital or common media formats, such as software (or computer programs), internet applications, television programs, certain children's programs, e-books, etc. (Chartisathian Chanipun, Kantawan Meesomsarn, Chaiyakan Apiradee**,** 2017)

LINE refers to applications for conversations on various forms of communication devices such as smartphones, computers, and tablets. Messages from one communication device to another The line has been developed to have a variety of capabilities to accommodate. The highlight that sets LINE apart from other forms of conversational applications is the format of "Sticker" that expresses a variety of users' emotions and feelings, such as basic sentiment stickers, festival and important day stickers, branded stickers, and famous cartoon stickers, among others.(Huedhun Khwanradee, 2017)

Thinking about multiplication is important and necessary because it is a fundamental concept for understanding, developing the effectiveness of computational techniques and studying mathematics at a higher level. The transition from the concept of positivity to the concept multiplication is not straightforward, so it is difficult to develop thinking about multiplication, especially in the late elementary level, affecting mathematical progress and good attitudes towards subjects. Therefore, the focus should be on empowering students to think about multiplication.(Punseema Wijak,2016)

RESEARCH OBJECTIVES

1. To use technological media to direct and monitor the recitation of the multiplication table of the second-grade students at Demonstration School, Suan Sunandha Rajabhat University.

2. To study the second-grade students and parents’ opinions toward the use of technological media to direct and monitor the recitation of the multiplication table of the second-grade students at Demonstration School, Suan Sunandha Rajabhat University.

RESEARCH METHODOLOGY

1. Population and sample

1.1 Population

The population used in this research was 105 second-grade students, from 3 classrooms, studying at Demonstration School, Suan Sunandha Rajabhat University in semester 1 of the 2022 academic year.

1.2 Sample

The samples used in this research included 34 second-grade students studying at Demonstration School, Suan Sunandha Rajabhat University in semester 1 of the 2022 academic year. The samples were obtained by using simple random sampling randomized units of 1 classroom.

2. Research instruments

2.1 Line application

2.2 Test reports of the recitation of the multiplication table

2.3 Questionnaires on the second-grade students and parents' opinions toward the use of technological media to direct and monitor the recitation of the multiplication table characterized by a 5-level rating scale (Boonchom Srisa-ard, 2010) as follows:

5 means strongly agree
4 means agree
3 means neither agree nor disagree
2 means disagree
1 means strongly disagree

The criteria for interpretation according to the 5 levels of opinion (Boonchom Srisa-ard, 2010) are as follows:

An average score of 4.51 – 5.00 means the highest level of opinion
An average score of 3.51 – 4.50 means a high level of opinion
An average score of 2.51 – 3.50 means a moderate level of opinion
An average score of 1.51 – 2.50 means a low level of opinion

An average score of 1.00 – 1.50 means the lowest level of opinion

3. Data collection

3.1 Clarify the details of the preparation by determining the dates, times, and months that students will need to rehearse reciting the multiplication table within the deadline and finding time to complete the multiplication recitation exam between August and September.

3.2 Data collection is conducted between August and September, with students spending the morning hours from 7 a.m. to 7:40 a.m., and lunch breaks from 12:10 p.m. to 1:10 p.m. In the evenings from 4 p.m. to 5 p.m., students choose when it's convenient for them to come to the exam at any time they want, but they have to recite the multiplication table fluently, accurately, with speed, and without mistakes. In the exam, there is a requirement that if one

can recite the multiplication table from 2 to 9, the researcher will check the name to pass using the sign ✓ in the aggregate box, it shall be considered complete, but if anyone who cannot do that and wants to take the split exam, then the researcher will check the name to pass using the mark ✓ (but once the 9 is completed, it must be recited from 2 to 9 again, confirming that he can recite fluently and will get the mark ✓ on the evening of every day. The researcher will report the results of the exam to parents individually via the group line of the room to inform students and parents whether their child has come to the exam each day, if they have already taken the exam but have not made progress, they can contact the researcher directly.

3.4 Give the questionnaires to the students and parents.

3.3 Collect the data to analyze.

4. Statistics

4. 1 Analyze the test reports of the recitation of the multiplication table using percentage values.

4.2 Analyzed questionnaires of second-grade students and parents on the use of technological media to monitor the recitation of multiplication tables by using the mean ($\overline{x}$) and standard deviation (S.D.)

RESULTS

The results of the data analysis were presented based on the objectives of the research as follows:

1. The results of the use of technological media to direct and monitor the recitation of the multiplication table of the second-grade students at Demonstration School, Suan Sunandha Rajabhat University

Table 1 The results of the use of technological media to direct and monitor the recitation of the multiplication table of the second – grade students

Students	Amount	Percent	Reciting multiplication table					
			Fluent		Not fluent		Cannot recite	
			Amount	Percent	Amount	Percent	Amount	Percent
Male	22	64.71	17	77.27	5	22.73	-	-
Female	12	35.29	8	66.67	4	33.33	-	-
Total	34	100.00	25	73.53	9	26.47	-	-

According to Table 1, there were 22 male students (64.71%) that 17 students were able to recite the multiplication table fluently with a percentage of 77.27 and 5 students were able to recite the multiplication table, but not fluently with a percentage of 22.73. There were 12 female students (35.29%), 8 students were able to recite the multiplication table fluently with a percentage of 66.67 and 4 students were able to recite the multiplication table, but not fluently with a percentage of 33.33. In general, 25 students were able to recite the multiplication table fluently with a percentage of 73.53 and 9 students were able to recite the multiplication table,

but not fluently with a percentage of 26.47. Besides, there were no students who cannot recite the multiplication table.

2. The results of the study on the second-grade students and parents' opinions toward the use of technological media to direct and monitor the recitation of the multiplication table

Table 2 Mean and standard deviation of the second-grade students and parents' opinions toward the use of technological media to direct and monitor the recitation of the multiplication table

No.	Content	The level of opinion		
		$\bar{x}$	S.D.	Meaning
1	When using the line application, it makes better planned to recite the multiplication table.	4.18	0.63	High
2	When using the line application, it's an urge to want to recite the multiplication table.	3.79	0.69	High
3	The name can be checked when using the line application	4.38	0.60	High
4	The results of reciting the multiplication table are reported to be up to date.	4.65	0.54	Highest
5	There was a competition to recite the multiplication table.	3.94	0.77	High
6	It's an easily accessible 2-way communication.	4.35	0.60	High
7	Parents know their child's progress in reciting the multiplication table when using the line application	4.74	0.48	Highest
8	Parents are engaged in rehearsals and recitation of a multiplication table when using the line application	4.24	0.50	High
9	There is satisfaction in directing and monitoring the recitation of the multiplication table when using the line application.	4.62	0.49	Highest
	Total	4.32	0.09	High

According to Table 2, the overall opinions of students, and parents on the use of technological media to direct and monitor the recitation of the multiplication table at a high level ($\bar{x}$ = 4.32, S.D. = 0.09). When considering each item, it was found that parents knew their students' progress in reciting the multiplication table at the highest level ($\bar{x}$ = 4.74, S.D. = 0.48). Next, the current results were reported was at the highest level ($\bar{x}$ = 4.65, S.D. = 0.54), and the parents satisfied with directing and monitoring the recitation of the multiplication table with the use of technological media at the highest level ($\bar{x}$ = 4.62 S.D. = 0.49).

CONCLUSION

1. From the result of using technological media to direct and monitor the recitation of the multiplication table of the second-grade students, it was found that a total of 25 from 34 students were able to recite the multiplication table fluently, with a percentage of 73.53, and 9 students were not fluent, with a percentage of 26.47. This may be because the researcher scheduled the multiplication drills sequentially and alerted the room's line group to parents at all times. When the exam passes, the researcher reported the results of the multiplication exam to parents and students daily, so that the parents in the group could see the progress of each student, thus giving impetus for the students to try to make progress. This corresponds to Suchada Sukbumrungsart (2010) who summarized motivation as defined as something within the individual as a driving force, it is the power of each person to accomplish one or another with a process of anticipation. It's a need and a goal in life. It gives a thrust to the goal. Whether a student sees a friend passing an exam and then wants to pass some exams, or a parent sees another child passing the exam, puts some pressure on their child to pass the exam.

2. Students and parents had comments on the use of technological media to direct and monitor the recitation of the multiplication table at a high level ($\overline{x}$ = 4.32, S.D. = 0.09). When considering each item, it was found that parents knew their students' progress in reciting the multiplication table at the highest level ($\overline{x}$ = 4.74, S.D. = 0.48). Next, the current results were reported was at the highest level ($\overline{x}$ = 4.65, S.D. = 0.54), and the parents satisfied with directing and monitoring the recitation of the multiplication table with the use of technological media at the highest level ($\overline{x}$ = 4.62 S.D. = 0.49). This may be because some students do not inform their parents of the results of the test for fear that parents will be reprimanded, but when the results are reported and summarized using line application every day, parents can know and help their children promptly as well as contact for detailed information. This corresponds to Teeraporn Plailek (2022) who studied the Creation of Phonics Innovative Series to improve the English Pronunciation Skills of Primary School Students. From using the Phonics Innovative Series, students are satisfied that they have learned from simple to difficult and can practice repeatedly, allowing students to practice all the time.

SUGGESTIONS AND FUTURE WORK

1. Recommendations for implementing research findings

1.1 To use the line application, the instructor should consider the appropriateness to inform the students' test scores, as this may violate the student's rights.

1.2 Some students may need to use individual supervision for helping them progress.

2. Suggestions for further research

2.1 Use of other technological media to monitor learning in other areas that monitor the learning behavior of students that are understood by teachers, parents, and teachers on the same page.

2.2 Use technology materials to monitor students' learning in other subjects.

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REFERENCES

Chartisathian Chanipun, Kantawan Meesomsarn & Chaiyakan–Apiradee. (2017), Using Technology For Early

Childhood. Plus Press Company Limited, Pp.9-10.

Huedhun Khwanradee. (2017). The influence of Line Application in the Present Communication. *Journal of*

Arts Management Vol.1 No.2 Pp. 75-88.

Office of the Basic Education Commission.–(2017), Ministry of Education, Indicators and Core Learning

Strands, Mathematics Learning Strand (Revised Edition 2017). Based on the Core Curriculum of Basic

Education. 2008, Agricultural Cooperative Publishing House of Thailand Limited

Plailek, Teeraporn. (2022), The Creation of Phonics Innovative Series to Improvethe English Pronunciation Skills of Primary School Students. *Journal of Education,16(1), ISSN:1905-9922, Pp.286-298.*

Punseema, Wijak. (2016), A Study of Multiplicative Thinking Levels of Elementary School Students, Rajabhat Maha Sarakham University.

Seankla, Wiparat. (2011), The Development of the Multimedia Computer-Bass Lesson Under Topic of The Multiplication Table in The Field of Mathematics for the Student in Prathomsuksa 2, Srinakharinwirot University.

Silawan Intasen. (2010), The Development of Leaning Skills in Multiplication Through Exercises and Cooperative learning Process for Prathomsuksa IV students, Buriram Rajabhat University.

Srisa-ard, B. (2010), Research Principles (8th ed.). Bangkok: Suweeriyasarn.

Suchada Sukbamrungsil. (2010), Motivation for the performance of teacher of Laem Chabang Engineering school,Chonburi Province. Master of Education. Thesis, Education Administration, Facuity of Burapha University.