TO ENHANCE THE SELECT LEARNING OUTCOMES OF MATHEMATICS AMONG FIFTH STANDARD STUDENTS THROUGH ENNUM EZUTHUM CLASSROOM APPROACH

INVESTIGATOR
S. BALAJI, M.Sc., M.Ed.
Lecturer
DIET- KURUKKATHI,
NAGAPATTINAM DISTRICT.

RESEARCH PROJECT REPORT
2023-2024

SUBMITTED TO

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

DECLARATION

I hereby declare that this project report entitled, " **TO ENHANCE THE SELECT LEARNING OUTCOMES OF MATHEMATICS AMONG FIFTH STANDARD STUDENTS THROUGH ENNUM EZUTHUM CLASSROOM APPROACH**''is the bonafide record of the original research work done is carried out to me. Submitted in the partial fulfilment for the project of District Institute of Education and Training, kurukkathi, Nagapattinam district during the year 2023-24. This report or part of this report has not been submitted earlier either to this Department or to any other Institution for the fulfilment of the requirement of a course of study or project or published/presented for any other purpose.

Place: kurukkathi   Signature of the Investigator

Date:

CERTIFICATE

This is to certify that the research project entitled as, " **TO ENHANCE THE SELECT LEARNING OUTCOMES OF MATHEMATICS AMONG FIFTH STANDARD STUDENTS THROUGH ENNUM EZUTHUM CLASSROOM APPROACH"** is the original research work carried out by **S.BALAJI,** Lecturer, District Institute of Education and Training, Kurukkathi, Nagapattinam district during the year 2023-24.

Place: Kurukkathi   Signature of the Principal

Date:

ACKNOWLEDGEMENT

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RESEARCH PROJECT ABSTRACT

NAME OF THE DIET: DIET KURUKKATHI, NAGAPATTINAM DISTRICT

NAME AND DESIGNATION OF THE RESEARCHER: S. BALAJI Lecturer

TITLE: TO ENHANCE THE SELECT LEARNING OUTCOMES OF MATHEMATICS AMONG FIFTH STANDARD STUDENTS THROUGH ENNUM EZUTHUM CLASSROOM APPROACH

1. INTRODUCTION

To monitor improvement in children learning levels and to periodically assess the health of the government education system as a whole, the NCERT has been

periodically Conducting national achievement surveys since 2001, for class 3,5, and 8. This information can be used to impact polices and interventions for improving children's learning under various programs. Based on Class -V NAS District Report Card performance of student's boys (43) and girls (43) respectively. In comparison with National average percentage in Mathematics (44) the Nagapattinam district scored overall (43) respectively.

In Mathematics subjects Students are scored low achievements in Lo number

M512 Explores the area and perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of a given shape as a unit

M506 identifies and forms of equivalent fractions of a given fraction

M515 Identify the patterns in triangular numbers and square numbers topics respectively.

The purpose of our project focus to identify low achievements learning outcomes in mathematics and enhance students perform in learning outcomes in Mathematics by adapting Ennum Ezuthum class room approach

2. NEED AND SIGNIFANCE

The study helps to identify low achievements in v standard Mathematics students and used Ennum Ezuthum class room approach. The main purpose of the study is to improve low achievement of learning outcomes in Mathematics based on Nagapattinam district report card among the v standard students. This study also examines various learning gapes in Mathematics among learners.

3. OBJECTIVES

- To identify the low achievement of select learning outcomes in Mathematics among the Fifth standard students
- To analyse the possible causes for the low achievement in select learning outcomes in Mathematics among the Fifth standard students.
- To find out the achievement level of Mathematics among Fifth standard students in pre-test.

- To select and use Ennum Ezuthum ICT strategies for select learning outcomes in Mathematics among the Fifth standard students.
- To find out the achievement level of Mathematics among Fifth standard students in post- test.

4. HYPOTHESIS OF THE STUDY

- There is no Significant difference between pre- test and post- test scores students.
- Male and female students in pre- test score of control group do not differ significantly on Achievement of Test score
- Male and female students in pre- test score of experimental group do not differ significantly on Achievement of Test score
- Male and female students in post- test score of control group do not differ significantly on Achievement of Test score.
- Male and female students in post- test score of experimental group do not differ significantly on Achievement of Test score.

5. METHODOLOGY

A) METHOD

- Experimental method.
- Control group conventional Ennum Ezuthum Approach-Experimental Group Ennum Ezuthum ICT adopted Approach
- Two Groups Pre- Test-Intervention-Post-Test Design

B) SAMPLE

- Two schools of Nagapattinam district (PUPS valivalam and PUPS Thirukannapuram)
- 30 students from each school were selected to carry out research work

C) INTERVENTION

In Control group the researcher adopts M512 M506 M515 learning outcomes to conventional Ennum Ezuthum Approach among the Fifth std students

In Experimental Group the researcher adopts same learning outcomes for various ICT adopted Approach like QR code, Animated videos and availabe resources in Internet.

The researcher conducts control and experimental Groups Pre- Test-Intervention-Post-Test design and find out the impact of ICT adopted Ennum Ezuthum approach compared to Ennum Ezuthum conventional approach. For this purpose 30 questions taken and validated by use of present study.

D)Tool

- Mathematics Achievement Test

E) DATA ANALYSIS

Data collection made by investigator. Individual score is recorded.

The tool is validated by experts. The investigator conduct pre-test and post-test and Individual score is recorded

The collected data processed by suitable statistical measures like

Mean deviation, standard deviation, t test and F test

DATA ANALYSIS

Group	Sex	Pre - Test		"t"value	Post- Test		"t"value
		Mean	Std. Dev		Mean	Std. Dev	
Control	Male (15)	7.00	1.095	0.590	14.00	1.549	0.368
	Female (15)	7.25	1.024		13.7	2.147	
	Total	7.125	1.0595		13.85	1.848	
Experimental	Male (15)	8.7	1.280	0.760	22.7	2.051	
	Female (15)	9.2	1.470		22.2	2.40	0.998
	Total	8.95	1.375		22.45	2.225	

Test	Number	Mean	SD	"t" value
Post–Test (Control Group)	30	13.85	1.848	8.64
Post – Test (Experimental Group)	30	22.45	2.225	

The t- test results shows that statistics of value 8.64 which is significant in table value. The calculated t- value was greater than the table t- value and hence the hypothesis was rejected. The results indicate that students in both control and experimental group differ significantly in achievement of Mathematics among Fifth standard students.

6.MAJOR FINDINGS

1 The results of the study provoked significance of technology oriented Ennum Ezuthum approach among the students.

2. The Experimental Group Ennum Ezuthum ICT adopted Approach could significantly improve the achievement score among the 5th standard students.

3. The hypothesis states that male and female students in both control group and experimental group do not differ significantly on Achievement score. The t- test results shows that statistics of value 8.64 which is significant in table value. The calculated t-value was greater than the table t- value and hence the hypothesis was rejected. The results indicate that both control and experimental group differ significantly on Achievement score among fifth Standard Students.

7.CONCLUSION

The development of Mathematics incorporated with ICT skills could definitely offer better ways for teaching and learning. Adoption of ICT techniques and Tools for teaching learning in a regular classroom increase students' active involvement and learning. A good rich learning environment can assist students as they develop understanding, interest, self-directed learning, and curiosity. ICT adopted Ennum Ezuthum approach enhances the teacher as well as the student's ability in terms of teaching and learning. It could be surmised from the study that the Experimental group performed at a better level when compared to the Control group.

8. EDUCATIONAL IMPLICATIONS

1. ICT adopted Ennum Ezuthum approach is more effective compared to conventional classroom teaching.

2.ICT gives a self -confident among the students

3.It promotes experimental learning and self -learning among learners

4.This helps reduces the wastage to testing learning process considerable extent.

5.This study helps to implement various school subjects like   Tamil, English, Evs, in elementary   level

6. This study helps us to future researcher to identify the ICT skills by apply various subjects to uplift the educational aspects of social welfare

Photos

Proposal approval Meet

Control Group Teaching

Post -Test conducting

Experimental Group Teaching

TO ENHANCE THE SELECT LEARNING OUTCOMES OF MATHEMATICS AMONG FIFTH STANDARD STUDENTS THROUGH ENNUM EZUTHUM CLASSROOM APPROACH

1.1 INTRODUCTION

To monitor improvement in children learning levels and to periodically assess the health of the government education system as a whole, the NCERT has been periodically Conducting national achievement surveys since 2001, for class 3,5, and 8.

NCERT, under the aegis of Ministry of Education, conducted the National Achievement Survey (NAS) throughout the country on November 13, 2021, for Classes 3, 5, 8 and 10 in government, government-aided schools, private recognized and central government schools. The survey tools used multiple test booklets with 50 questions in Classes 3 and 5, 60 questions in Class 8, 70 questions in Class 10 in Mathematics, Language, Sciences, Environmental Studies, and Social Sciences. The competency-based test questions reflect the learning outcomes developed by NCERT which were recently incorporated in the RTE Act by the Government of India. Along with the test items, questionnaires about students, teachers and schools were also used. The learning levels of 3.4 million students from 1,18,274 schools across 720 Districts in all 36 States/UTs were assessed. The findings of the survey help guide the education policy, planning and implementation at National, State, District and classroom levels to improve the learning levels of children and bring about qualitative improvements

This information can be used to impact polices and interventions for improving children's learning under various programmes.

The Ennum Ezhuthum Programmes were initiated as part of a broader effort to

improve the quality of primary education by focusing on foundational literacy and numeracy. Recognizing the importance of these basic skills, the programmes aim to provide a systematic approach to teaching and learning, ensuring that students acquire the essential competencies needed for their academic and personal development. Primary school teachers play a pivotal role in the implementation of these programmes. Their ability to effectively deliverthe curriculum and engage students in the learning process is crucial for the success of the Ennum Ezhuthum Programmes.

Based on Class -V NAS District Report Card performance of student's boys (43) and girls (43) respectively. In comparison with National average percentage in Mathematics (44) the Nagapattinam district scored overall (43) respectively.

In Mathematics subjects Students are scored low achievements in Lo number

M512 Explores the area and perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of a given shape as a unit

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M515 Identify the patterns in triangular numbers and square numbers topics respectively.

Ennum Ezhuthum Programmes is critical for achieving the desired educational outcomes and ensuring that every child acquires the foundational literacy and numeracy skills necessary for their academic and personal development.

The purpose of our project focus to identify low achievements learning outcomes in mathematics and enhance students perform in learning outcomes in Mathematics by adapting Ennum Ezuthum class room approach

1.2 PRIMARY EDUCATION ITS ROLE AND IMPORTANCE IN CHILDRAN DEVELOPMENT

Primary education paves the way for children's future success. As a result, most countries have declared primary schooling a basic right for all citizens. Children's character

development begins at a young age, allowing them to adopt a learning style. Furthermore, there are various areas of basic education that you should be aware of in order to assist children in their entire development.

The main role of primary education is to instill in children the ability to think critically, achieve high levels of living, meet the difficulties of technological innovation, and enhance citizenship and fundamental values. Primary education providers must provide safe and positive environments where effective learning occurs. Primary education aims to provide an opportunity to have a steady team to interact with. Primary education also includes smaller categories and a lot of variety of academics. There is a need of primary education not only for an individual but also for the country as well. It is the foundation for further education.

In India, however, many parents are more concerned with finding a nearby school than with finding an excellent one. When picking a school, distance from home should not be the primary consideration. Some parents are unaware of the school's history, vision, activities, and curriculum. Of course, they want the best for their children, but quality must always take precedence over other considerations.

Need & Importance of Primary Education

Primary schools in India offer a child the opportunity to acquire basic skills and knowledge that they need to be successful in life. It provides a child with an environment where they can explore, experiment, and learn at their own pace. It also helps children develop social skills like cooperation, communication, and empathy which are essential for children's development. The importance of primary education in child overall development is numerous in terms of:

1. Moral Values

The basis for children to understand moral principles is laid in primary school. In addition to the standard teachings, the teachers emphasize the value of respecting people and their viewpoints. These factors are critical for overall growth, character development, and choosing the appropriate route.

2. Social Development

School is the first place where children learn to interact with various new people, including classmates and teachers. Before this, they spent most of their time with their parents, siblings, and relatives, but now they are exposed to a new environment at school, where they learn how to connect, play, and share with others. This is also where students make new friends, learn how to help one another, participate in group activities, sports activities, and so much more.

3. Reading and Communication Skills

Children learn to read for the first time in primary school. Reading is seen as one of the most beneficial habits for all people, even youngsters. It helps children see and imagine what

they're reading, which increases their memory and stimulation. Furthermore, they improve their conversational and communication skills.

4. Becoming Confident

When a child attends a **good primary school**, they are exposed to a positive environment in which the teachers are properly trained. They develop and learn in a supportive and encouraging environment, and a good school assists them in becoming more self-assured.

1.3 Role of Primary Education

Every kid's first and most fundamental right is to receive primary education. It is not just the responsibility of the government but also of parents to ensure that all children have access to education. The major goal of primary education is to raise children's consciousness, provide chances for self-development, and eliminate intergenerational poverty. It's the first step toward establishing welfare and a community. Primary education is an absolute requirement for long-term growth.

The purpose of primary education is to ensure that children develop appropriately. This means that all children have the opportunity to develop their social, cognitive, cultural, emotional, and physical talents to their full potential. Attending a good primary school & **pre-school in Surat,** which can have a greater impact on children's academic achievement than their family background or gender, is critical to receiving a quality primary education.

Benefits of Primary Education for child development

Primary education is important for child development because it provides a foundation for future learning. A strong start in primary school can help increase the likelihood that students will continue to do well in later stages of schooling, which can lead to better outcomes in adulthood. The benefits of primary education can be seen in children's cognitive development, physical development, social-emotional development, and moral or ethical development.

The importance of primary education in the development of young children cannot be understated. It has a number of benefits for a child's overall development such as:

1) Nurtures inquisitiveness

2) Improves child's concentration

3) Boosts cognitive skills

4) Teaches diversity

5) Builds team spirit and resilience

1.4 Frequently Asked Questions

Q. How do teachers impact the development of children?

A. Teachers are one of the most important people in a child's life. They are responsible for teaching children the skills they need to succeed and shaping their personality.

Q. What are the benefits of early childhood education?

A. Early childhood education can have a significant effect on the development of children. It is a vital period for the growth and development of the brain, cognitive skills, and social skills. Early childhood education has been shown to enhance school readiness, achievement in school and higher levels of employment.

Q. Why is it important for children to develop cognitive skills?

A. Cognitive skills are important for children because they help them to learn, think, and reason. These skills are crucial for their development as a person and in their future careers.

1.5 NAS DISTRICT REPORT CARD

NAS 2021
RESULTS FOR
Class 5

I LEARNT MANY THINGS DURING THE PANDEMIC

75% Painting / Singing / Dancing / Playing Musical Instrument

81% Spent joyful time with my parents / grandparents / siblings

54% Yoga

49% Cooking

68% Indoor Game

Total Participation

| **51** Schools | **130** Teachers | **951** Students |
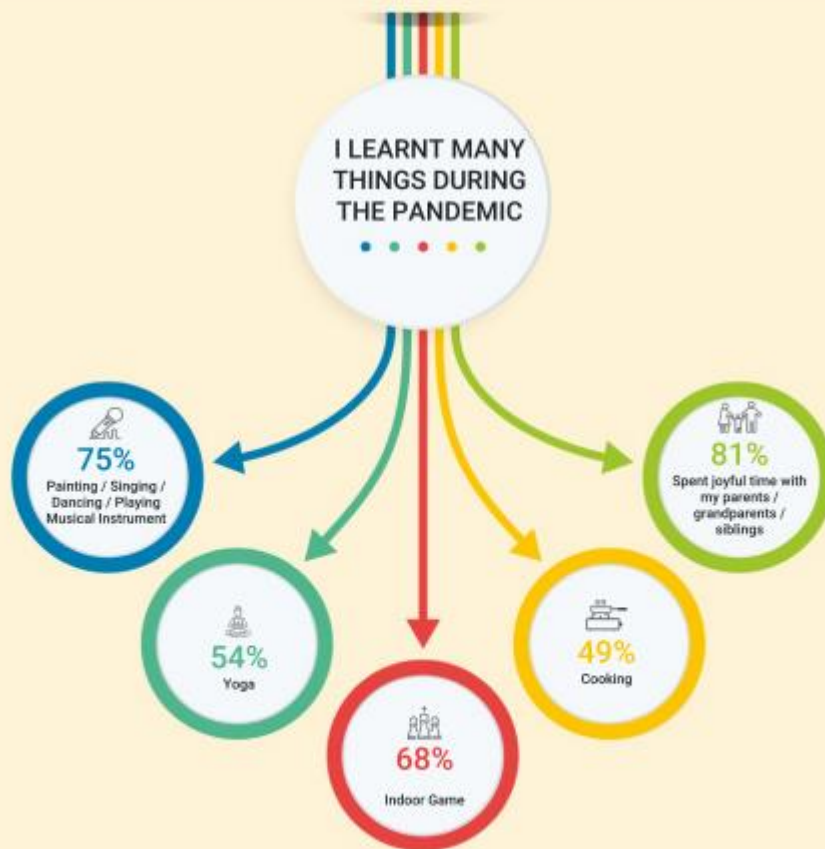
District Performance of Students vis-a-vis State and National
in percent correct (standard error)

Language

| | District | State | National |
| | 53 (0.88) | 50 (0.19) | 55 (0.04) |

Mathematics

| | District | State | National |
| | 43 (0.73) | 41 (0.16) | 44 (0.03) |

EVS

| | District | State | National |
| | 48 (0.78) | 45 (0.16) | 48 (0.03) |
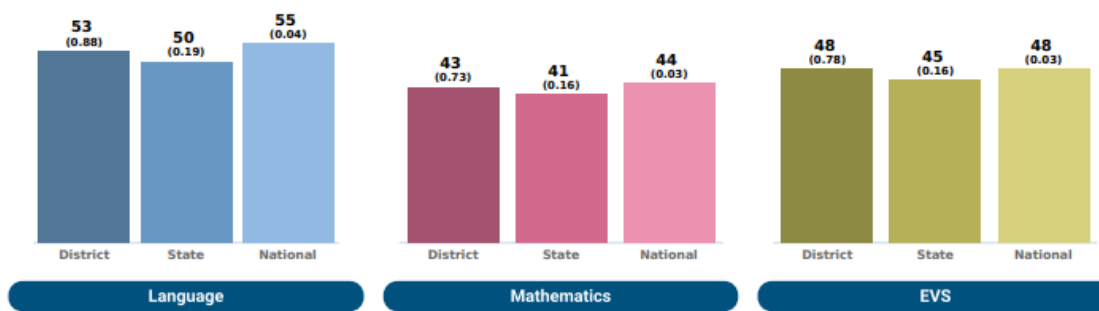
Percentage of Students by Performance Level

	Below basic	Basic	Proficient	Advanced
Language	24	38	32	6
Mathematics	36	40	21	3
EVS	36	32	26	7

Below Basic	Learners at this level are at the early stages of development regarding the curriculum standards. They have not achieved the required knowledge and skill to be considered minimally successful regarding curriculum demands. They need guidance at every stage of learning. They need a lot of encouragement and support.
Basic	Learners at this level demonstrate a minimum level of knowledge and skills related to the curricular demands. They can follow simple instructions and apply simple rules to achieve the expected performance. They have ideas but lack coherence. They can solve problems using simple logic, and also express themselves using simple language. They need enough guidance at various stages of learning.
Proficient	Learners at this level have acquired most of the learning outcomes and skills required by the curriculum. They can work independently with minimum supervision. They have a systematic methodology to solve problems. They can communicate their ideas clearly. They can also connect different ideas and create meaning with minimum guidance and supervision. They can analyze situations and interpret information for application in new situations. Efforts are required to bring all learners to attain the proficient level and above.
Advanced	Learners at this level display exceptional mastery of the learning content as prescribed by the curriculum and beyond. They are independent with high analytical, reflective and critical thinking. They can connect and integrate concepts and ideas to create new knowledge/meaning and solve complex problems. They communicate information with the highest level of creativity and coherence as well as make sound judgements.

District Report Card (Tamil Nadu - Nagapattinam)   CLASS 5

Performance by Gender (in percent correct)

Legend: Boys, Girls, Transgender

Language

	District	State	National
Boys	51	48	54
Girls	55	52	56
Transgender	7	7	34

Mathematics

	District	State	National
Boys	43	41	44
Girls	43	42	44
Transgender	5	5	29

EVS

	District	State	National
Boys	47	44	48
Girls	50	47	49
Transgender	11	11	35
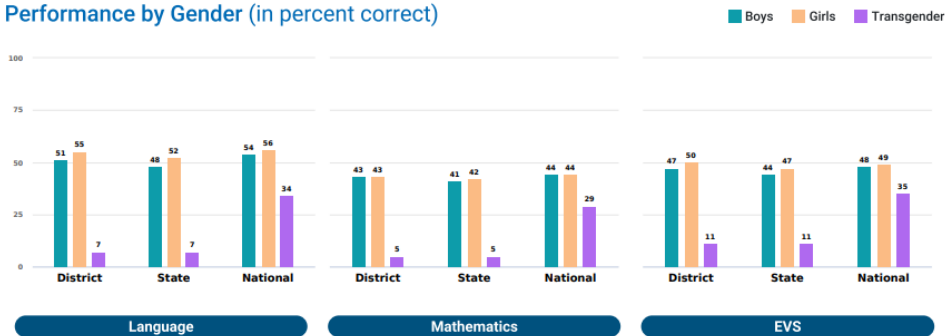
Participation by Gender

Boys 47.7%   Girls 52.2%   Transgender 0.1%
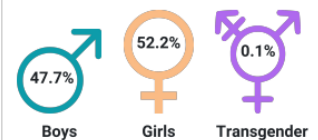
Performance by Location (in percent correct)

Legend: Rural, Urban

Language

	District	State	National
Rural	53	50	55
Urban		50	56

Mathematics

	District	State	National
Rural	43	41	44
Urban		42	43

EVS

	District	State	National
Rural	48	45	49
Urban		45	48
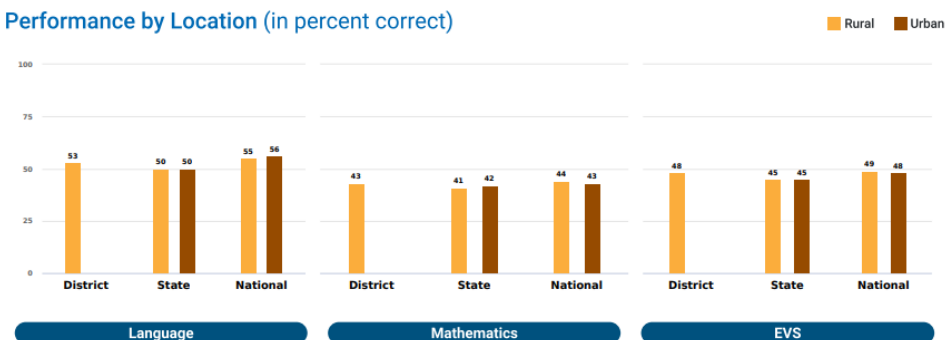
Participation by Location

Rural 100%   Urban 0%
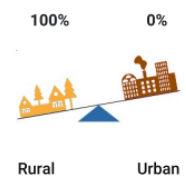
Performance by Management (in percent correct)

Legend: ■ State Govt. ■ Govt. Aided ■ Private Recognized ■ Central Govt.

Language / Mathematics / EVS bar charts (District, State, National)
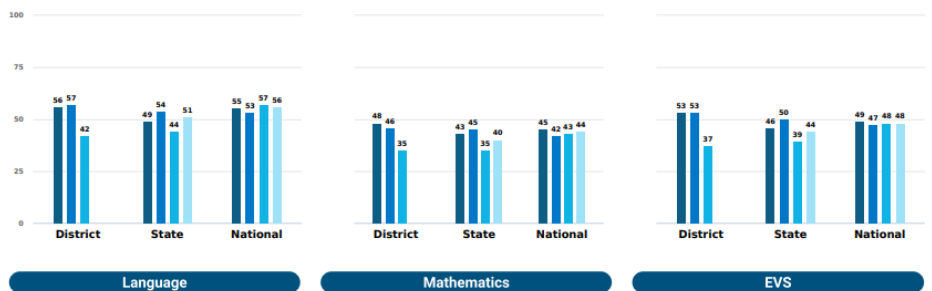
Participation by Management

0 %
31 %
33 %
35 %

● State Govt.
● Govt. Aided
● Private Recognized
● Central Govt.
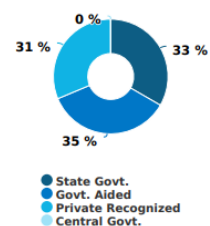
Performance by Social Group (in percent correct)

Legend: ■ SC ■ ST ■ OBC ■ General

Language / Mathematics / EVS bar charts (District, State, National)
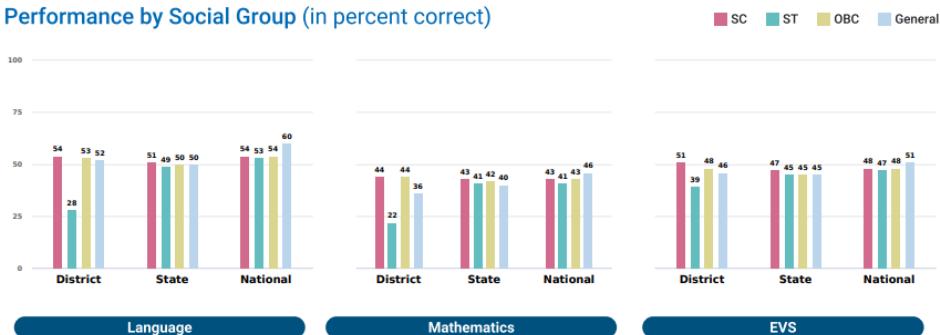
Participation by Social Group

SC 32.3%
ST 0.4%
OBC 65.4%
General 1.9%

District Report Card (Tamil Nadu - Nagapattinam) **CLASS 5**

Performance of the District in Achieving Learning Outcomes (LOs)

LO Code	Learning Outcomes for Class 5	District Average Performance	State Average Performance	National Average Performance
Language				
L508	Reads text with comprehension, locates details and sequence of events	53	50	55
Mathematics				
M401	Applies operations of numbers in daily life situations	45 ⚠	42 ⚠	45 ⚠
M412	Explores the area and perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of given shape as a unit	34 ⚠	34 ⚠	36 ⚠
M418	Calculates time intervals/duration of familiar daily life events by using forward or backward counting/addition and subtraction	44 ⚠	42 ⚠	47 ⚠
M421	Represent the collected information in tables and bar graphs and draws inferences from these	39 ⚠	40 ⚠	42 ⚠
M501	Reads and writes numbers bigger than 1000 being used in her/his surroundings	56	54	55
M504	Estimates sum. difference, product and quotient of numbers and verifies the same using different strategies like using standard algorithms or breaking a number and then using operation	45 ⚠	43 ⚠	46 ⚠
M505	Finds the number corresponding to part of a collection	57	55	55
M506	Identifies and forms equivalent fractions of a given fraction	38 ⚠	36 ⚠	38 ⚠

Code	Description			
M508	Converts fractions into decimals and vice versa	46 ⚠	40 ⚠	43 ⚠
M509	Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing	57	49 ⚠	48 ⚠
M512	Relates different commonly used larger and smaller units of length, weight and volume and converts larger units to smaller units and vice versa	41 ⚠	35 ⚠	38 ⚠
M513	Estimates the volume of a solid body in known units.	41 ⚠	38 ⚠	41 ⚠
M514	Applies the four fundamental arithmetic operations in solving problems involving money, length, mass, capacity and time intervals	40 ⚠	40 ⚠	43 ⚠
M515	Identifies the pattern in triangular numbers and square number	39 ⚠	43 ⚠	46 ⚠
M516	Collects data related to various daily life situations. represents it in tabular form and as bar graphs and interprets it	40 ⚠	44 ⚠	46 ⚠
EVS				
EVS403	Identifies relationship with and among family members in extended family	53	48 ⚠	50
EVS410	Records observations/experiences/information for objects, activities, phenomena, places visited in different ways and predicts patterns and activities/ phenomena	50	46 ⚠	50
EVS501	Explains the super senses and unusual features (sight, smell, hear, sleep, sound, etc.) of animals and their responses to light, sound, food etc.	40 ⚠	40 ⚠	45 ⚠
EVS503	Describes the interdependence among animals, plants and humans	58	52	50
EVS504	Explains the role and functions of different institutions in daily life (Bank, Panchayat, cooperatives. police station, etc.)	48 ⚠	43 ⚠	48 ⚠
EVS505	Establishes linkages among terrain, climate, resources (food, water, shelter, livelihood) and cultural life. (e.g. life in distant/difficult areas like hot/cold deserts)	55	48 ⚠	48 ⚠
EVS506	Groups objects, materials, activities for features/properties such as shape, taste, color , texture, sound, traits etc.	47 ⚠	46 ⚠	48 ⚠
	Traces the changes in practices, customs, techniques of past and present through coins.			

District Report Card (Tamil Nadu - Nagapattinam)

CLASS 5

What students have to say

99%
Students like to go to school

93%
Students use same language at home as medium of instruction in the class

98%
Students could understand, what teachers teach in the class

72%
Students go out and play during games period

53%
Students have access to digital devices in the school

46%
Students have internet connectivity at home

85%
Student get parental support for their educational achievement

What teachers have to say

60%
Teachers have adequate instructional material and supplies

69%
Teachers have adequate work space

65%
Teachers say that they are overloaded with the work

23%
Teachers have responded that the school building needs significant repair

10%
Teachers have responded that there is lack of drinking water facilities in school

17%
Teachers have responded that there are inadequate toilet facilities in school

58%
Teachers participated in professional development program

94%
Teachers have responded that the parents take interest in school activities

99%
Teachers know the protocol for COVID symptoms reporting

99%
Measures to be taken for wellbeing of children and school staff

What head teachers have to say

89%
of head teachers responded that schools have adequate qualified teaching staff

66%
of head teachers responded that schools have adequate supporting staff

63%
of head teachers responded that schools have adequate audio visual resources

75%
of head teachers responded that schools have adequate library resources

97%
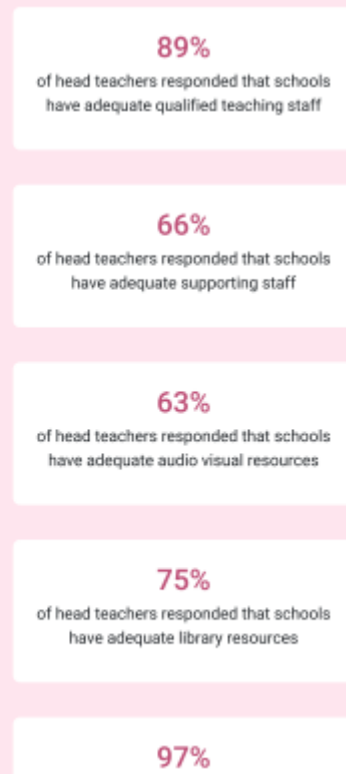
Ennum Ezhuthum

An initiative by Tamil Nadu Department of School Education

1.6 Vision: To attain universal foundational literacy and numeracy skills for children in Std. 3 by 2025.Year of launch: 2021

38
Districts
37,000
Schools
83,000
Teachers
10
 lakh
Students

1.7 ENNUM EZUTHUM About the Project

The Ennum Ezhuthum Mission is the government led programme to improve literacy and numeracy outcomes among elementary school students within TN government schools. Madhi works with Samagra Shiksha and the Tamil Nadu State Council for Educational Research and Training as a partner to collaboratively create holistic solutions that will aid the implementation of the Ennum Ezhuthum Mission.

We engage with all levels of stakeholders from the state, district and block levels to the teachers and leaders of each school in our work towards the Mission. Our partnership with the state is a catalytic model, where we support with the implementation of the programme while the vision and planning is led by the teachers and state resource groups.

Teaching Learning Material (TLM): Skill based, culturally relevant, teaching learning material mapped to state syllabi and international standards

Training: Tech-enabled training courses to improve teacher competencies

Tracking: Collection and analyses of meaningful data to drive informed policy decisions

Tutoring at home: Empowering the parent community with information and tools to support their children's early learning needs

Targeted communication: Communication and advocacy efforts designed to increase awareness about the criticality of foundational learning among all relevant stakeholders

Technology: Simple, contextual, and scalable tech tools are at the heart of what we build
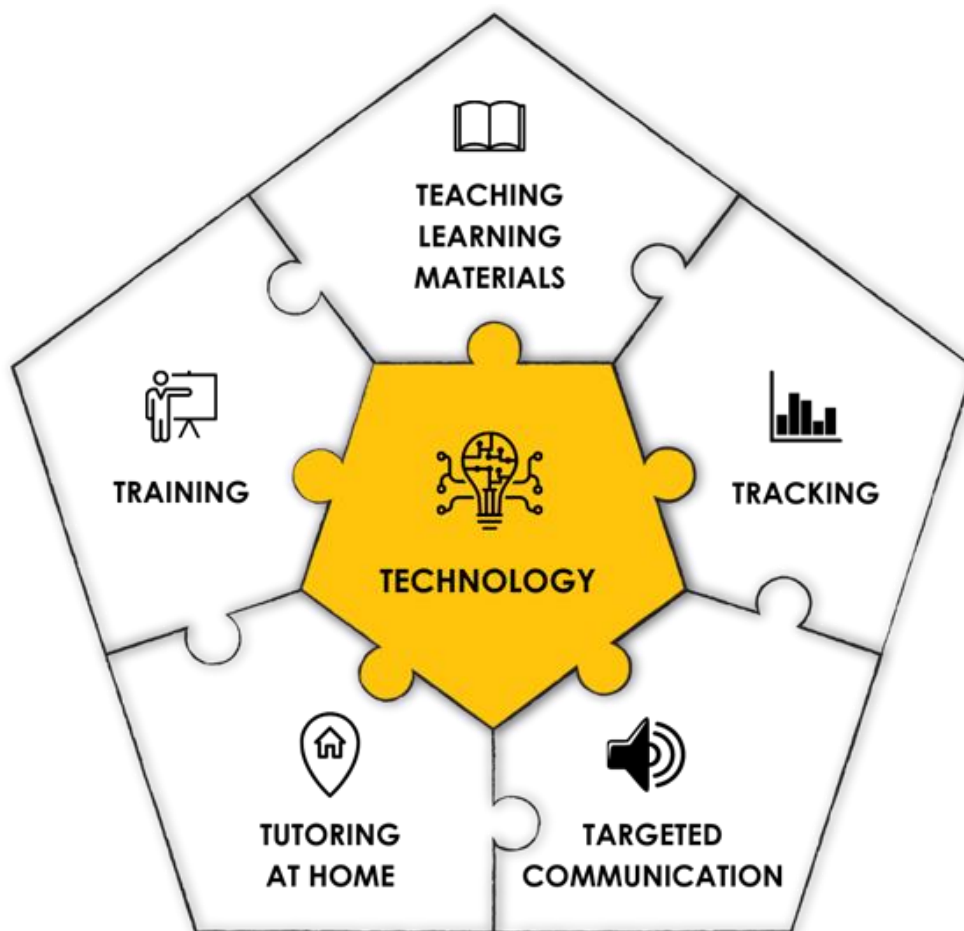
"The Ennum Ezhuthum Mission will ensure foundational literacy and numeracy, and will be implemented to ensure that by 2025 all students in Tamil Nadu by age 8 are able to read with comprehension and possess critical arithmetic skills."

Ennum Ezhuthum Mission, T.N. scheme to bridge learning gap, to begin with baseline survey this month for Class 5All government and aided schools are to conduct a baseline survey for students of class 5 from June 21 to June 30 onwards in Tamil, English and Maths; teachers have been given resource material and a handbook as well as training, to help students

With the Ennum Ezhuthum Mission all set to be expanded to include students of classes 4 and 5 from the upcoming academic year, a baseline survey will be conducted for students of class 5 across government and aided schools later this month to assess their learning levels.

1.8 ENNUM EZUTHUM SCHEME

In the 2022-23 academic year, Ennum Ezhuthum was introduced as a foundational literacy and numeracy programme for students of classes 1 to 3 to address learning gaps. In its first phase, over 27.60 lakh students in these classes were covered across 35,835 schools.

Chief Minister of Tamil Nadu, MK Stalin launched the "Ennum Ezhuthum Scheme" in state, as schools re-opened after summer vacation.

Ennum Ezhuthum Scheme

- This scheme was launched to bridge the learning gap among students aged under 8, caused as a result of COVID-19 pandemic.
- It aims to ensure foundational numeracy and literacy by 2025.
- Scheme was launched at an event, organised in Azhinjivakkam panchayat union middle school, Tiruvallur.

Distribution of Workbook

Under the Ennum Ezhuthum Scheme, education department will distribute workbooks to students from Classes 1 to 3, in order to assess and bridge the learning gap.

Training programme for teachers

Before this launch, a special training programme was organised for teachers and handbooks were distributed among them. They were advised to opt for an interactive learning method and encourage students to read books and newspapers in school library.

Why was this scheme launched?

This scheme was launched as schools in the state of Tamil Nadu were shut for over 19 months during covid-19 pandemic. Thus, this learning gap cannot be bridged by regular classes alone. Thus, this scheme has been launched in order to help each child individually. For this purpose, a high-level committee has been formed.

Training to children

Under the initiative, children will be trained in three subjects viz., Tamil, English and Mathematics. Scheme seeks to make classroom suitable for conducting lessons. These Lessons have been designed in dance, songs, puppetry and storytelling format.
Background
To mark the one year of DMK government, Chief Minister have launched several schemes in recent months. He announced free breakfast scheme for primary school children as well as a nutrition scheme for malnourished children. Moreover, Rs 1,000 incentive was announced for girl students pursuing higher education.

Chief Minister M.K. Stalin on Monday launched the State government's ambitious Ennum Ezhuthum Mission, which aims at addressing the learning gap caused by the COVID-19 pandemic among primary school students and ensuring foundational literacy and numeracy.

Speaking at the launch of the initiative in Tiruvallur district, Mr. Stalin said the programme would cover students of Classes 1 to 3 from government and government-aided schools across Tamil Nadu. "By 2025, we want all children within the age of 8 to have foundational literacy and numeracy. Schools were shut for nearly one-and-a-half years, which resulted in children not being able to learn in classrooms. We want to address the learning gap through this programme," he said.

Tamil Nadu Chief Minister, **MK Stalin** launched the **Ennum Ezhuthum scheme** to bridge the learning gap that was caused due to the **COVID pandemic among students aged below eight.** The scheme aims to ensure foundational literacy and numeracy by 2025. It was launched at an event in **Azhinjivakkam panchayat union middle school, Tiruvallur.**

Buy Prime Test Series for all Banking, SSC, Insurance & other exams

Under the programme:
- The education department will distribute workbooks to students from **Classes 1 to 3** to assess and bridge the learning gap.
- Last week, a special training programme was conducted for teachers and handbooks were distributed.
- Teachers were advised to opt for interactive learning methods and encourage students to read newspapers and books in the school library.
- The State government has announced a slew of programmes and schemes for the academic year 2022-23, with the motive to improve the quality of education in the State.

- The children will be trained in 3 subjects – **Tamil, English,** and **Mathematics** in a classroom suitable for conducting lessons that are designed in the format of dance, songs, storytelling, and puppetry, and also videos.

Important takeaways for all competitive exams:
- Tamil Nadu Capital: Chennai;
- Tamil Nadu Chief minister: K. Stalin;
- Tamil Nadu Governor: N. Ravi.

or the 2022-23 academic year, 20 editions of the student magazines and 10 issues of the teachers' magazines will be printed. A sum of ₹7.15 crore has been allotted for the same, and the magazines will be printed by the Tamil Nadu Textbook and Educational Services Corporation

1.9 OVER VIEW ENNUM EZHUTHUM PROGRAMME

The Ennum Ezhuthum Programmes are educational initiatives designed to enhance foundational literacy and numeracy skills among primary school students. These programmes aim to ensure that every child achieves the necessary competencies in reading, writing, and arithmetic, which are essential for their academic progression and overall development. Recognizing the critical importance of these basic skills, the Ennum Ezhuthum Programmes provide a structured and systematic approach to teaching and learning in primary schools.

The primary objectives of the Ennum Ezhuthum Programmes are to improve student outcomes in literacy and numeracy, reduce learning disparities, and support teachers in delivering high-quality education. The programmes include a variety of instructional strategies, teaching materials, and assessment tools tailored to meet the diverse learning needs of students. By focusing on these core areas, the programmes aim to build a strong educational foundation that will support students' future academic achievements and lifelong learning.

Key components of the Ennum Ezhuthum Programmes include: Curriculum Design: The programmes offer a well-structured curriculum thataligns with national education standards and focuses on developing essentialliteracy and numeracy skills. The curriculum is designed to be engaging and interactive, encouraging active student participation and

fostering a love forlearning.

Teacher Training and Support: Recognizing the crucial role of teachers, the Ennum Ezhuthum Programmes provide extensive training and professional development opportunities. Teachers receive guidance on effective instructional strategies, classroom management techniques, and the use of teaching aids and technology. Ongoing support and mentoring are also offered to help teachers continuously improve their practice.

Teaching Materials and Resources: The programmes include a wide range of teaching materials and resources, such as textbooks, workbooks, digital content, and interactive tools. These resources are designed to support diverse learning styles and make learning more accessible and enjoyable for students.

Assessment and Evaluation: Regular assessments are an integral part of the Ennum Ezhuthum Programmes, helping to monitor student progress and identify areas that need improvement. Formative and summative assessments provide valuable feedback to both teachers and students, guiding instructional decisions and personalized learning plans.

Community and Parental Involvement: The programmes emphasize the importance of involving parents and the community in the educational process. Workshops, meetings, and communication channels are established to keep parents informed and engaged in their children's learning journey.

Technology Integration: The Ennum Ezhuthum Programmes leverage technology to enhance teaching and learning experiences. Digital tools and platforms are used to deliver content, facilitate interactive learning, and provide access to a wealth of educational resources.

overall, the Ennum Ezhuthum Programmes are a comprehensive effort to improve primary education by focusing on foundational skills, supporting teachers, and engaging the community. By addressing the critical areas of literacyand numeracy, these programmes aim to create a strong educational foundation that will benefit students throughout their academic and personal

lives.

1.10 NEED FOR THE STUDY

In this technological word, many more technology-based teaching methods, packages, video, films, instructional programs and mobile application are found in the market for making learning the particular subject easier. Even though there are new arrivals in the teaching -learning process, teachers cannot replace the old traditional teaching method. Physics is a subject which is deals with many practical applications. It should be learned through learning by doing experiences. The investigator thinks that e-resources content be used for teaching Mathematics. He also wants to test and adopt the ICT integrated Approach in learning Mathematics.

BACKGROUND OF THE STUDY

The investigator believes that the application of Mathematics subject can be effectively taught by ICT based content will help the student's learning at primary level. Hence the present study, which is entitled, "**TO ENHANCE THE SELECT LEARNING OUTCOMES OF MATHEMATICS AMONG FIFTH STANDARD STUDENTS THROUGH ENNUM EZUTHUM CLASSROOM APPROACH''**

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STATEMENT OF THE PROBLEM

Mathematics is a subject which is dealt day to day life activities. It should be learned through practical experiences and by learning by doing activities. The investigator thinks that ICT integrated approach content will be used for the teaching Mathematics subject. He also wants to test and adopt ICT integrated approach in Mathematics subjects. The teachers are not aware of the importance of ICT based teaching and learning process. Hence, in this study, the investigator wants to teach with the help ICT Integrated and find out the effectiveness. After teaching the lesson through ICT based Teaching, the

investigator aims to find out the mastery level of students in selected learning outcomes in mathematics concepts.

1.11 THEORIATICAL RATIONALE OF THE STUDY

ICT integrated approach related to the Mathematics Concept at Elementary level will help the teachers in teaching process and it will help the students to understand the concept via technology experiences. ICT based Mathematics concepts like perimeter and area, equivalent fraction , square and Rectangle numbers will explore live experience among students and it will help ease understanding and to attain the maximum Knowledge in the content. The ICT based teaching in the Mathematics content will help in easy understanding of the concepts. It's also helped to form the imaginary reflective thinking of the students.

1.12 DEFINITION OF THE TERMS USED
DEFINITION OF THE TERMS USED

ENNUM EZUTHUM

The scheme called "Ennum Ezhuthum" which means 'numerals and letters' was launched by Chief Minister MK Stalin in a school near Puzhal village in Tiruvallur District near Chennai.

ICT INTEGRATED APPROACH
According to Sukula "ICT Integrated approach is an teaching it includes resources that can be accessed on the websites, inside and outside of the school user can get information what he or she want, when it is needed
".
The Integrated Approach means using information and communication technologies (ICT) to enhance teaching and learning objectives in the curriculum. It emphasizes open-ended questions and developing students' information skills through contextualized and collaborative activities that stimulate critical thinking.
Nowadays, techniques and strategies could develop which allow documents to be created and distributed in electronic form.
ICT Integrated approach is an teaching it includes resources that can be accessed on the websites, inside and outside of the school user can get information what he or she want, when it is needed

V STANDARD STUDENTS

Students who are studying V Standard in Nagapattinam district under Tamil Nadu state board syllabus.

1.13 THE INVESTIGATOR SELECT THE FOLLOWING ICT INTEGRATED APPROACH FOR STUDY

- ICT integrated approach like
- Audio lessons
- Educational blogs
- E-books
- Videos downloaded from internet
- Video lessons
- Kalvi tv videos
- QR code videos

1.14 VARIABLES SELECTED FOR THE STUDY

The variable involved in the study are as follows;

1.Group : Experimental / Control

2.Gender : Male / Female

3.Preferable Method of Teaching : Traditional / ICT integrated based
Teaching.

1.15 OBJECTIVES OF THE STUDY

- To identify the low achievement of select learning outcomes in Mathematics among the Fifth standard students
- To analyses the possible causes for the low achievement in select learning outcomes in Mathematics among the Fifth standard students.
- To find out the achievement level of Mathematics among Fifth standard students in pre-test.
- To select and use Ennum Ezuthum ICT strategies for select learning outcomes in Mathematics among the Fifth standard students.

- To find out the achievement level of Mathematics among Fifth standard students in post- test.

4. To find out the mean scores of differences in Achievement of Mathematics in control and experimental group

5.To find out the mean score's differences between Control group and Experimental group.

6.To find out the achievement of mathematics among Experimental group

7.To find out whether there is any significant difference between the Pre-test, Post-test mean score of Control group and Experimental group.

8.To find out the achievement of mathematics among Control and Experimental group with respect to their variables.

1.16 HYPOTHESES OF THE STUDY

1.Achievement scores of selected topics of physics among Experimental group is high.

2.There is no significance difference between the Pre-test mean score of Control group and Experimental group.

3.There is no significance difference between the Post-test mean score of Control group and Experimental group.

4.There is no significance difference between the Pre-test mean score of male and female students of Control group.

5.There is no significance difference between the Post-test mean score of male and female students of Control group.

6.There is no significance difference between the Pre-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

7.There is no significance difference between the Post-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated

approach teaching of Experimental group.

8.There is no significance difference between the Pre-test mean score of male and female students of Experimental group.

9.There is no significance difference between the Post-test mean score of male and female students of Experimental group.

10.There is no significance difference between the Pre-test mean score of the students who prefers Traditional method of teaching and the students who ICT integrated approach teaching of Experimental group.

12.There is no significance difference between the Post-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

13.The Achievement scores of Mathematics among Experimental group students is high with respect to their variables.

1.17 METHODOLOGY OF THE STUDY

The present study comes under the purview of an Experimental study and was conducted by employing a True-Experimental Design. The design used in the present study was based on the Pre-test, Post-test Equivalent Group Design. Two groups (one Control group and one Experimental group) Experimental method followed in this study.

Control group- Pre-test- Teaching- Post test

Experimental group -Pre-test- intervention- post test

1.18 LIMITATION OF THE STUDY

The study has attempted to use ICT integrated approach of select learning outcomes among fifth standard students is a Innovation method for teachers. It has vast dimensions to discuss and implement in classroom for both experimental and control group Some of the aspects are included in the achievement of mathematics

tool.

1.19 DELIMITATION OF THE STUDY

The delimitations of the present study are as follows

1. The study is conformed to the FIFTH Standard students of PUPS Valivalam and PUPS Thirukkannapuram ,of Nagapattinam District only.

The sample size is restricted to 60 students due to paucity of time and energy

1.20. CHAPTERISATION

The study is brought out in five chapters as given below

➢ The first Chapter Includes the introductory aspects such as introduction.

➢ The second Chapter Includes an introduction to review of related literature, a review of research studies conducted and conclusion.

➢ The third Chapter Includes method used in the study, population for the study, the sample and distribution of sample, tool for the study, pilot study and description of the tool, scoring procedure, validity, reliability, statistical technique used and conclusion.

➢ The fourth Chapter Includes analysis and interpretation of the data and also includes tables and figures to substantiate the result, findings and discussions.

➢ The fifth Chapter Includes findings and discussions, recommendations, educational implications, suggestion for further research and conclusion.

1.21 CONCLUSION

The first chapter presented the introductory aspects such as introduction, NAS District report card, Fifth standard low achievement Learning outcomes , Mathematics achievement score Dis-Advantages of the study. Objectives, Need of the study, Hypotheses, Limitation. It also brought out the Delimitations and organization of the report. The next chapter deals with the review of related literature

CHAPTER II

REVIEW OF RELATED STUDIES

2.1 INTRODUCTION

The Review of related literature involves the Systematic identification, location, and analysis of documents containing information related to the research problem. The term is also used to describe the written component of a research plan or report that discusses the reviewed documents. These documents can include articles, abstracts, reviews, monographs, dissertations, other research reports, and electronic media. The literature review has several important purposes that make it well worth the time and effort. The major purpose of reviewing the literature is to determine what has already been done that relates to our topic, this knowledge not only prevents us from unintentionally duplicating another's research work, it also gives us the understanding and insight of our need to place our topic within a logical frame. Put simply, the review tells us what have been done and what needs to be done. Previous studies can provide the rationale for our research hypothesis, and indications of what to be done can help us to justify the significance of our study.

A brief summary of previous research and writings of recognized experts provides evidences that the researcher is familiar with what is already known and with what is still unknown and untested. Thus, it helps in avoiding duplication and providing helpful suggestions for future investigations. Thus, it helps in avoiding duplications and provides helpful suggestions for future investigations. It also helps in the formulation of hypothesis and in the selection methods and tools to be employed. They can also be very useful in the interpretation of result

A summary of the writings of recognized or authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown and untested. Because effective research based on past knowledge, this step helps to eliminate the duplication of what has been done and provides useful hypotheses and helpful suggestions for significant investigation citing studies that show sustainable agreement and those that seem to prevent conflict confusions helps to sharpen and define understanding of existing knowledge in the problem era, provides the background for the research project, and makes the reader aware of the status of the issue

2.2 PURPOSE OF REVIEW OF LITERATURE

The important purpose of reviewing the literature is to discover research strategies and specific data collection approaches that have or have not been productive in investigations of topics similar to ours. This information will help us to avoid other researchers' mistakes and profit from their experiences. It may suggest approaches and procedures that we previously had not considered. For example, suppose our topic involved the comparative effects of a brand-new Experimental method versus the traditional method on the achievement of Ninth-grade science students. The review of literature might reveal 10 related studies that found no differences in achievement. Several of the studies, however, might suggest that the brand-new method may be more effective for certain kinds of students than for others. Thus, we might reformulate our topic to involve the comparative effectiveness of the brand-new method versus the traditional method on the achievement of a subgroup of Ninth-grade science students: those with low aptitude'

1. **Subhadeep Bhattacharyya (2017)** conducted a study on an Experimental study on the students of secondary level: effectiveness of audio-visual aids in teaching life science. The Main purpose of this experiment to study the effectiveness of Audio-visual aids in teaching life science among the students of secondary level. The participants of this experiment were 64 (29 girls and 35 boys) secondary level student of West Bengal Board of Secondary Education. The instrument for data collection was 14 items "Teacher made Achievement Test". Topic of achievement test was "flower". Students were divided into two groups. Pre and Post-tests were taken upon both groups. Data was analysed by using ANOVA at 0.05 level of significance. The result of this Experimental study revealed that using audio-visual aids in teaching life science at the secondary level is more effective than without using audio-visual aids.

   It enables students to conduct experiments more flexibly and in an interactive way using multimedia. It helps them to achieve electronic practical training, skills, and tendencies. This paper focuses on describing the design and procedures of a nationwide research project financed by The Research Council and conducted to measure the effectiveness of the e-lab on Omani students' acquisition of practical abilities and skills. The research project, in particular, examines the effectiveness of the e-lab in science teaching, the skills acquisition, and basic education students' appreciation of the classroom environment. It also aimed to know the students' attitudes towards the use of e-Lab technology and its employment. The paper will draw prospective recommendations for the field work derived from literary evidence

2. **DT Next (2024)** reported the implementation of the Ennum Ezhuthum programme, aimed at enhancing numerical and literacy skills among primary school students in Tamil Nadu, has faced resistance from teachers regarding the involvement of Bachelor of Education (B. Ed) students in assessing its

effectiveness. This opposition stems from concerns about the suitability of B. Ed trainees for assessing an active educational scheme without prior experience or sufficient teaching knowledge. Teachers argue for official assessments by

qualified personnel rather than involving students who are yet to enter the teaching profession. This resistance highlights broader concerns about the government's approach to evaluating educational initiatives and its impact on the morale and professional recognition of teachers.

3. **Jahnavi (2021)** The Ennum Ezhuthum Mission in Tamil Nadu is a foundational literacy and numeracy program aimed at addressing the learninggap among young students, particularly those in Classes 1 to 3. This initiative comes at a crucial time, considering the significant learning loss due to the pandemic. The mission's focus is on ensuring that all students in government schools attain reading and arithmetic skills appropriate for their age.

. The Madhi Foundation, collaborating with the government, brings extensive experience in designing context-specific solutions for multi-grade, multi-level, and multilingual classrooms, common in Tamil Nadu's educational landscape. The program emphasizes differentiated instruction, child-centric teaching, and active involvement of both teachers and parents in assessing and improving students' foundational learning skills. Through innovative teaching methods, technology integration, and data-driven approaches, the Ennum Ezhuthum Mission aims to bridge the learning gap and prepare students for higher grades effectively.

4.Mathi (2021) reported This piece discusses the shift in educational policy towards using assessments as tools for driving learning, particularly in the context of the Government of Tamil Nadu's Ennum Ezhuthum programme (EE). The article explores different assessment approaches, focusing on school-based

and large-scale standardized assessments. It discusses how assessments were limited in their utility before the launch of EE and how the program aims to enhance assessment practices to inform instruction, teacher training, and curriculum design effectively. The EE programme incorporates both formative and summative assessments, leveraging digital tools to gather data forinstructional improvements and student-specific insights. The article also delves into the role of assessments in gauging progress, tracking performance, and guiding instructional interventions, highlighting the complexities and challenges of large-scale assessment implementation.

5.Madhi Foundation (2024) collaborates closely with the Tamil Nadu School Education Department to implement large-scale quality improvement programs in government schools. This abstract outlines Madhi's initiatives under Project: TN Soars, focusing on foundational learning, technology integration, and STEAM education. Specifically, it highlights the Ennum Ezhuthum Mission, Project MALA, Tech for Ed Systems, and Tamil Nadu STEAM Model Schools as critical projects. The abstract details Madhi's role as the Chief Management Partner for the Ennum Ezhuthum Mission, a significant initiative aimed at universalizing foundational learning in Tamil Nadu's government schools. It also discusses Project MALA's goal of enhancing language proficiency through innovative tools, Tech for Ed Systems' focus on education governance through technology, and Tamil Nadu STEAM Model Schools' objective of providing holistic education to underserved communities. The abstract further describes the Senior Manager role within Madhi's TNSOARS-1 team, emphasizing leadership

in project management, stakeholder engagement, team building, and outcome-driven approaches. The abstract concludes by outlining prerequisites for theSenior Manager role, including relevant work experience, leadership skills,educational background, and proficiency in communication and technology tools. **Alice Ranjini (2024)** The Ennum Ezhuthum Mission in Tamil Nadu has ushered in a new era of educational practices, emphasizing activity-basedexperiential learning. This article, authored by Alice Ranjini and SrivathsanRamaswamy from the Madhi Foundation, presents an insightful account of howreimagined Teaching and Learning Materials (TLM) have significantly impactedclassroom dynamics and student learning outcomes in the state. Through a blendof data analysis, observational insights, and stakeholder engagement, the articleilluminates the journey towards educational revitalization in Tamil Nadu. Theintroduction sets the stage by highlighting the concerning learning povertystatistics gleaned from national research, particularly ASER reports spanningfrom 2005 to 2022. These statistics reveal stark realities, such as the lowpercentage of grade 3 students proficient in reading and basic arithmetic skills,underscoring the urgency for educational reforms. The Ennum EzhuthumMission, launched in 2022 by the Government of Tamil Nadu, emerges as abeacon of change, aiming to equip every child in government schools withessential literacy and numeracy skills.The subsequent sections delve into the coreaspects of the Ennum Ezhuthum Mission and its impact on teaching and learningpractices. One key highlight is the shift towards level-based learning materials aligned with the Learning Outcome Framework (LOF). This strategic move has

empowered teachers to cater to diverse learner needs within multi-grade classrooms effectively. The article elaborates on the innovative teaching aids, such as levelled student workbooks, teacher guides, and learning kits, designed tocreate a conducive and engaging learning environment. The narrative unfolds with insights from classroom observations and stakeholder feedback, showcasinghow administrators, teachers, and parents have actively contributed to the mission's success. Training sessions, structured engagement mechanisms, and collaborative platforms have facilitated a seamless transition towards student- centered pedagogy. The article also addresses initial challenges faced during implementation, such as time constraints and apprehensions, and how these challenges were mitigated through strategic interventions and capacity building initiatives.A notable aspect highlighted in the article is the holistic approach adopted by the Ennum Ezhuthum Mission, which extends beyond academic outcomes to encompass parental involvement and community engagement. Regular classroom observations, data-driven decision-making, and continuous improvement mechanisms underscore the mission's commitment to fostering a culture of excellence in education. In conclusion, the article paints a comprehensive picture of the transformative journey undertaken by Tamil Nadu'seducation sector, driven by a vision of inclusive and quality education for every child. The reimagined Teaching and Learning Materials, coupled with collaborative efforts and data-driven insights, have paved the way for enhanced student learning experiences and improved learning outcomes across the state.

6. **Indhuja and Violin Sheeba (2016)** conducted a study on to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhucoillms higher secondary school, Palliyadi at Kanyakumari district the study was undertaken to assess effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhucoil LMS Higher Secondary School, Palliyadi at Kanyakumari District. The overall aim of the research was to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence. The Researcher adopted a quantitative approach with one group Pre-test, Post-test design. 60 adolescences from 11th standard were selected by simple convenience sampling method include based on pre-test video teaching on health hazards of electronic devices was given by the investigator, after that Post-test was done after one week with the help of structured questionnaire. The collected data were analysed based on the above-mentioned objective using the descriptive and inferential statistics. The study identified that the video teaching programme was effective after conducting knowledge regarding health hazards of electronic devices among adolescence. The paired 't' value was found to be 9.304, df = 59, P < 0.05. From the results of the study, it is concluded that video teaching was effective in promoting knowledge regarding health hazards of electronic devices among adolescence.

7. **DIET Padalur (2023)** The Ennum Ezhuthum Scheme, a flagship program of the Tamil Nadu government launched in the 2022-23 academic year, aims to address the learning gap caused by the COVID-19 pandemic. The scheme's goal is to ensure that all students in Tamil Nadu can read with comprehension and possess basic arithmetic skills by the age of 8 by the year 2025. Implemented in all government schools across Tamil Nadu, the scheme targets students in classes 1 to 5 and employs various methods to enhance student learning. These methods include level-based instruction, where students are grouped according to their current learning levels and receive instruction at their own pace, and integrated learning, which teaches subjects such as Tamil, English, Maths, and Environmental Studies (EVS) in an integrated manner to highlight connections between them. Additionally, the scheme leverages technology by using digital resources such as tablets and educational apps to support student learning. To evaluate the impact of the Ennum Ezhuthum Scheme, 43 student-teachers were appointed as Third Party Evaluators and visited 54 schools across three educational blocks in the Perambalur district from September 7th to 15th, 2023. This evaluation was conducted under the direction of Higher Education, with continuous support and encouragement from DIET, Padalur, to assess the scheme's effectiveness and its impact on student learning outcomes.

8. **Subashini Vijayakumar (2024)** reported The Ennum Ezhuthum books adapted for students with disabilities in government schools have received positive feedback from teachers and students statewide. This inclusive education initiative, launched in April 2022, initially targeted classes 1 to 3 and extended to

classes 4 and 5. In response to challenges faced by disabled students with standard textbooks, the school education department introduced adapted books featuring vibrant colours, increased pictorial content, and simplified activities. Developed with inputs from special educators, these books also include straightforward sentences to enhance comprehension. Additionally, a handbook was provided to teachers on identifying disabilities and effectively using the adapted books. This initiative has been praised for significantly improving the learning experience for disabled children.

The Tamil Nadu government launched the Ennum Ezhuthum scheme in June 2022, spearheadedby Chief Minister M.K. Stalin, to address the learning gaps caused by the COVID-19 pandemic. The scheme, introduced at Azhinjivakkam Panchayat Union Middle School in Tiruvallur, aims to achieve basic literacy and numeracy among children under 8 years old. It includes distributing workbooks to students in classes 1 to 3 to assess and understand learning deficits. Focusing on Tamil, English, and Mathematics, the programme encourages interactive teaching methods and promotes reading. This initiative was crucial due to the prolonged closure of schools in Tamil Nadu for over 19 months, necessitating targeted efforts to individually support each child's learning needs.

9. **Subhadeep Bhattacharyya (2017)** conducted a study on an Experimental study on the students of secondary level: effectiveness of audio-visual aids in teaching life science. The Main purpose of this experiment to study the effectiveness of Audio-visual aids in teaching life science among the students of secondary level. The participants of this experiment were 64 (29 girls and 35 boys) secondary level student of West Bengal Board of Secondary Education. The instrument for data collection

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10.Mohamed Taha (2023) Ennum Ezhuthum Scheme: Addressing Educational Disparities in Tamil Nadu. Education played the pivotal role in developing in the educational barriers in India. Education in rural India has long been a topic of debate cause of its importance in development. Rural India faces challenges in accessing education compared to the urban areas. Due to improper infrastructure, qualified teachers, and resources in rural area resulted educational gaps in those areas. However, different schemes and initiatives were taken by govt., non-profit organizations, and private sectors to improve the education in rural India. The Ennum Ezhuthum scheme started in Tamil Nadu, during the post pandemic situation, for

developing the student in the rural areas

and the minorities in Tamil Nadu. This scheme is an aimed at tackling educational gaps in rural India. With a focus on enhancing literary rate especially among marginalized communities, the scheme works multifaceted strategies, like providing qualities education, promoting digital literacy and empowering elementary education. The scheme undertakes to bridge the disparities of the rural educations through providing schools and libraries and innovative teaching methods. As a result, the "Ennum Ezhuthum" scheme holds promise in not only uplifting rural communities but also in fostering a more inclusive and equitable educational landscape in Tamil Nadu. This paper will focus on some schemes provided in Tamil Nadu for developing the rural children and minorities in Tamil Nadu.

- EdexLive Desk (2022): Elaborates guidelines for the Ennum Ezhuthum scheme, detailing activities and routines to enhance learning outcomes and support teachers in planning effective lessons.

11.Puttaswamy, R. M. and Krishnamurthy, M. (2014) This study emphasizes on the usefulness of e-resources among the primary teachers .Survey method is used to collect the data. The main objective of this paper is to know the preferred e-resources type and quality of e- content used by them. The study reveals the majority of the members are aware about the usefulness of the e-resources.

In effect, all the studies reviewed above are implemented on the assumption that uptake of electronic resources is highly desirable in that it leads to increased productivity of work, learning, teaching and research.

Data was analysed by using ANOVA at 0.05 level of significance. The result of this Experimental study revealed that using audio-visual aids in teaching life science at

the secondary level is more effective than without using audio-visual aids.

It enables students to conduct experiments more flexibly and in an interactive way using multimedia. It helps them to achieve electronic practical training, skills, and tendencies

2.3 SUMMARY OF REVIEW

- **Puttaswamy, R. M. and Krishnamurthy, M. (2014)** This study emphasizes on the usefulness ICT Integrated approach among the primary teachers .Survey method is used to collect the data. The main objective of this paper is to know the preferred ICT Integrated approach and quality used by them. The study reveals the majority of the members are aware about the usefulness of the video lessons.

- **Jahnavi (2021):** The Ennum Ezhuthum Mission aims at foundational literacy and numeracy skills among young students in Classes 1 to 3, emphasizing differentiated instruction, child-centric teaching, and active involvement of teachers and parents.

- Madhi Foundation (2024): Collaborates with the Tamil Nadu government for quality improvement programs, including the Ennum Ezhuthum Mission, Project MALA, Tech for Ed Systems, and Tamil Nadu STEAM Model Schools, aiming at foundational learning, technology integration, and STEAM education.

- **Alice Ranjini (2024):** Highlights the impact of reimagined Teaching and Learning Materials (TLM) on classroom dynamics and student learning outcomes under the Ennum Ezhuthum Mission, focusing on activity-based experiential learning and data-driven insights.

- **DIET Padalur (2023):** Discusses the Ennum Ezhuthum Scheme's

implementation across government schools to address learning gaps caused by the pandemic, employing methods like level-based instruction and technology integration.

- Subashini Vijayakumar (2024): Positive feedback on adapted Ennum Ezhuthum books for students with disabilities, emphasizing inclusive education and improved learning experiences.

- Department of School Education (2023): Launches the Ennum Ezhuthum scheme to achieve basic literacy and numeracy among children under 8 years old, focusing on interactive teaching methods and subject-specific learning.

- **EdexLive Desk (2022):** Elaborates guidelines for the Ennum Ezhuthum scheme, detailing activities and routines to enhance learning outcomes and support teachers in planning effective lessons.

- Mohamed Taha (2023): Discusses the Ennum Ezhuthum scheme's role in addressing educational disparities in rural Tamil Nadu, focusing on providing quality education, digital literacy, and empowering elementary education among marginalized communities.

- **Jesson Hero (2019)** conducted a study on The Impact of Technology Integration in Teaching Performance. In this study the implementation of the K to 12 Education program in the Philippines, it necessitates the use of technology in teaching. Technology integration in teaching helps and assists Social Studies teachers to fill the gap and aid the weakness of traditional teaching methods with technology-based teaching and learning tools and facilities

2.4 RESEARCH GAP

Primary school teachers encounter various challenges in implementing Ennum Ezhuthum programmes, which are crucial for foundational literacy and numeracy skills among young students. One prominent issue is the lack of adequate resources, including teaching materials and technological support, hindering effective instruction delivery. Additionally, insufficient training and professional development opportunities limit teachers' ability to utilize innovative teaching methods and adapt to changing educational landscapes. Another challenge is the complex classroom dynamics, including diverse student abilities and learning styles, requiring differentiated instruction strategies that

may not always be feasible due to time constraints and large class sizes. Moreover, limited parental involvement and community engagement further exacerbate these challenges, as collaborative efforts are essential for reinforcing learning outside the classroom. To address these issues, probable solutions could involve comprehensive resource allocation, targeted training programs, support

for technological integration, smaller class sizes, and fostering stronger partnerships with parents and communities to create a conducive learning environment for students.

2.5 CONCLUSION

Conducting a thorough literature review will help to broaden our knowledge in the area of interest and provide us with a base from which to expound upon. The literature review process could literally go on forever, however, knowing when to end the literature review is important. When we begin to read the same data over and over without finding new content, or we begin to witness a repletion in research methods and results it may be time to end the literature review process. Remember to allow enough time to complete the literature review and exhaust all resources before we end the search for valuable information. The literature review adds strength to the research work.

CHAPTER-III
METHODOLOGY OF THE STUDY

Introduction

Experimental research

Types of Experimental research

Advantages of Experimental research

Research Design

Operational Definition of Terms

Variables Selected For The Study

Objectives of The Study

Hypotheses of The Study

Methodology of The Study

Tools Used For the study

Construction of The Tool

E Resourced Based Physics Content

Pilot testing and experts' opinion

Achievement test

Establishment of reliability

Establishment of validity

Sampling Technique

Administration of the pre-test tool

Administration of the post-test tool

Scoring procedure

Data Collection

Analysis

3.1 INTRODUCTION

Research is a process of systemic inquiry that entails collection of data. Research is an academic activity and as such the term should be used in a technical sense. According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last, carefully testing the conclusions to determine whether they fit the formulating hypothesis. D. Steiner and M. Stephenson in the Encyclopaedia of Social Sciences define research as "the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art. research is a detailed and careful study of something to find out more information about it

3.2 EXPERIMENTAL RESEARCH

Experimental research is research conducted with a scientific approach using two sets of variables. The first set acts as a constant, which we use to measure the differences of the second set. Quantitative research methods, for example, are Experimental. If we don't have enough data to support our decisions, we must first determine the facts. Experimental research gathers the data necessary to help us to make better decisions.

Any research conducted under scientific acceptable conditions uses Experimental methods. The success of Experimental studies hinges of researchers confirming the change of a variable is based solely on the manipulation of the constant variable. The research should establish a notable cause and effect. We can conduct Experimental research in the following situations:

- Time is a vital factor in establishing a relationship between cause and effect.
- Invariable behaviour between cause and effect.
- We wish to understand the importance of the cause and effect.

3.3 TYPE OF EXPERIMENTAL RESEARCH

The classic Experimental design definition is, "The methods used to collect data in Experimental studies."

There are three primary types of Experimental design:

- Pre-Experimental research design
- True Experimental research design
- Quasi-Experimental research design

The way we classify research subjects, based on conditions or groups, determines the type of design.

1. **pre-Experimental research design:** A group, or various groups, are kept under observation after implementing factors of cause and effect. We will conduct this research to understand whether further investigation is necessary for these particular groups.

Pre-Experimental research further classified into three types:

- One-shot Case Study Research Design
- One-group Pre-test-Post-test Research Design
- Static-group Comparison

2. True Experimental research design: True Experimental research relies on

statistical analysis to prove or disprove a hypothesis, making it the most accurate form of research. Of the types of Experimental design, only true design can establish a cause-effect relationship within a group. In a true experiment, three factors need to be satisfied:

- There are a Control Group, which won't be subject to change, and an Experimental Group, which will experience the changed variables.
- A variable which can be manipulated by the researcher
- Random distribution

This Experimental research method commonly occurs in the physical sciences.

3. Quasi-Experimental research design: The word "Quasi" indicates similarity. A Quasi-Experimental design is similar to Experimental, but it is not the same. The difference between the two is the assignment of a Control group. In this research, an independent variable is manipulated, but the participants of a group are not randomly assigned. Quasi-research is used in field settings where random assignment is either irrelevant or not required.

3.4 ADVANTAGES OF EXPERIMENTAL RESEARCH

It is vital to test new ideas or theories. Why put time, effort, and funding into something that may not work? Experimental research allows us to test our idea in a Controlled environment before taking it to market. It also provides the best method to test our theory

3.5 RESEARCH DESIGN

Figure 3.1 flow chart showing the procedure of the study

```
┌─────────────────────┐          ┌─────────────────────────┐
│      Pre-test       │          │        Pre-test         │
└─────────────────────┘          └─────────────────────────┘
           │                                  │
           ▼                                  ▼
┌─────────────────────┐          ┌─────────────────────────┐
│ Traditional teaching│          │ E-Resources based teaching│
└─────────────────────┘          └─────────────────────────┘
           │                                  │
           ▼                                  ▼
┌─────────────────────┐          ┌─────────────────────────┐
│      Post-test      │          │        Post-test        │
└─────────────────────┘          └─────────────────────────┘
           │                                  │
           └──────────►┌──────────────────────┐◄──────────┘
                       │ Scoring and Consolidation │
                       └──────────────────────┘
                                  │
                                  ▼
                       ┌──────────────────────┐
                       │  Statistical Technique │
                       └──────────────────────┘
                                  │
                                  ▼
                       ┌──────────────────────┐
                       │ Analysis and Interpretation │
                       └──────────────────────┘
```
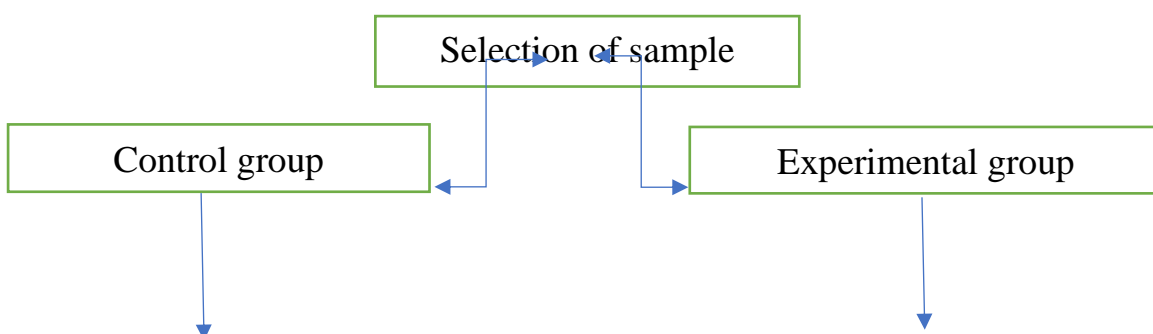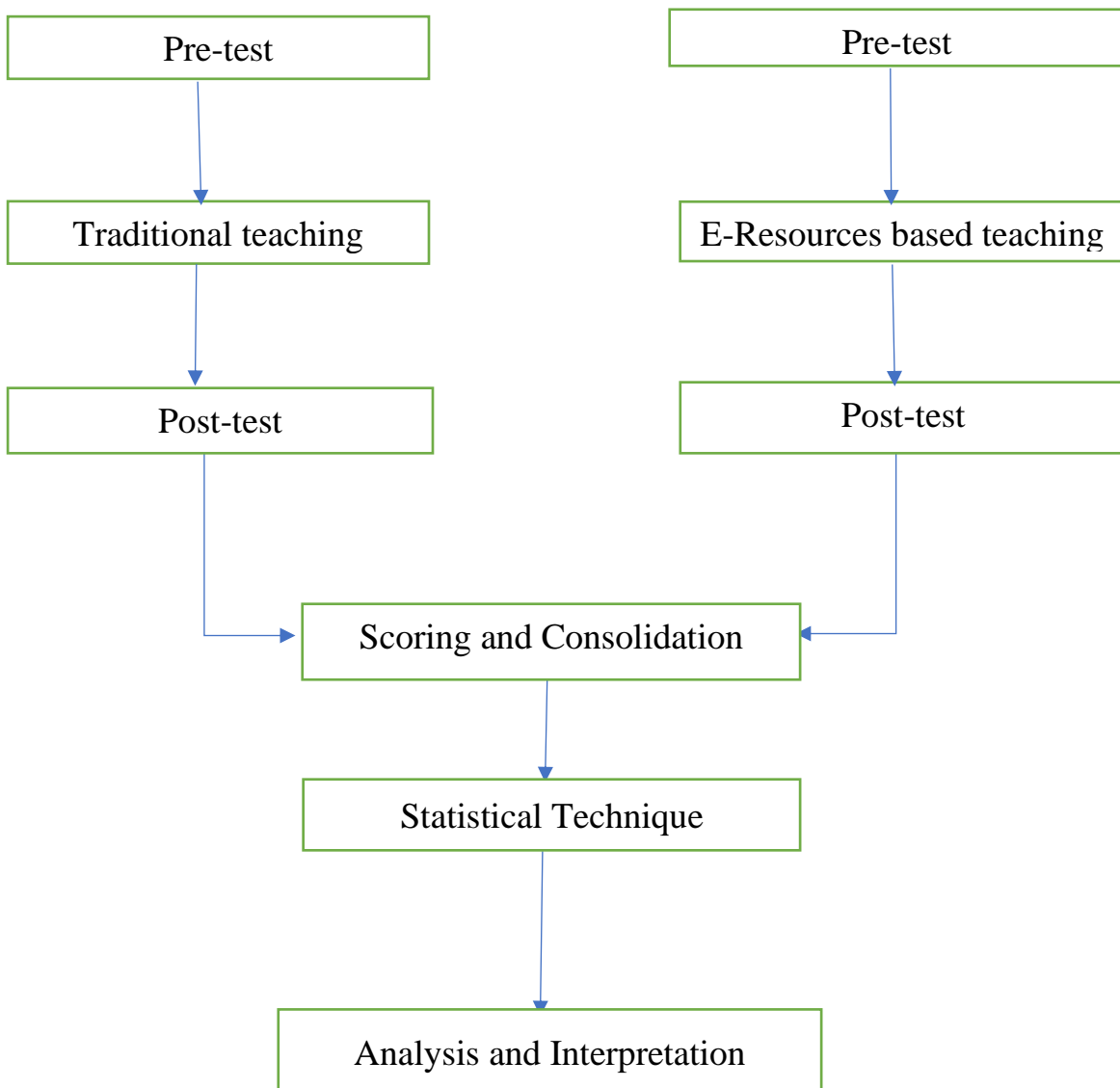
3.6 OPERATIONAL DEFINITIONS OF KEYTERMS

DEFINITION OF THE TERMS USED

ENNUM EZUTHUM

The scheme called "Ennum Ezhuthum" which means 'numerals and letters' was launched by Chief Minister MK Stalin in a school near Puzhal village in Tiruvallur District near Chennai.

ICT INTEGRATED APPROACH

According to Sukula "ICT Integrated approach is an teaching it includes resources that can be accessed on the websites, inside and outside of the school user can get information what he or she want, when it is needed ".

The Integrated Approach means using information and communication technologies (ICT) to enhance teaching and learning objectives in the curriculum. It emphasizes open-ended questions and developing students' information skills through contextualized and collaborative activities that stimulate critical thinking.

Nowadays, techniques and strategies could develop which allow documents to be created and distributed in electronic form.

ICT Integrated approach is an teaching it includes resources that can be accessed on the websites, inside and outside of the school user can get information what he or she want, when it is needed

V STANDARD STUDENTS

Students who are studying V Standard in nagapattinam district under Tamil Nadu state board syllabus.

THE INVESTIGATOR SELECT THE FOLLOWING ICT INTEGRATED APPROACH FOR STUDY

- ICT integrated approach like
- Audio lessons
- Educational blogs
- E-books
- Videos downloaded from internet
- Video lessons
- Kalvi tv videos
- Qr code videos

3.7 VARIABLES SELECTED FOR THE STUDY

The variable involved in the study are as follows;

1.Group   : Experimental / Control

2.Gender   : Male / Female

3.Preferable Method of Teaching   : Traditional / ICT integrated based

<div align="center">Teaching.</div>

3.8 OBJECTIVES OF THE STUDY

- To identify the low achievement of select learning outcomes in Mathematics among the Fifth standard students

- To analyses the possible causes for the low achievement in select learning outcomes in Mathematics among the Fifth standard students.

- To find out the achievement level of Mathematics among Fifth standard students in pre- test.

- To select and use Ennum Ezuthum ICT strategies for select learning outcomes in Mathematics among the Fifth standard students.

- To find out the achievement level of Mathematics among Fifth standard students in post- test.

 4. To find out the mean scores of differences in Achievement of Mathematics in control and experimental group

 5.To find out the mean score's differences between Control group and Experimental group.

 6.To find out the achievement of mathematics among Experimental group

 7.To find out whether there is any significant difference between the Pre-test, Post-test mean score of Control group and Experimental group.

 8.To find out the achievement of mathematics among Control and Experimental group with respect to their variables.

3.9 HYPOTHESES OF THE STUDY

1.Achievement scores of selected topics of physics among Experimental group is high.

2.There is no significance difference between the Pre-test mean score of Control group

and Experimental group.

3.There is no significance difference between the Post-test mean score of Control group and Experimental group.

4.There is no significance difference between the Pre-test mean score of male and female students of Control group.

5.There is no significance difference between the Post-test mean score of male and female students of Control group.

6.There is no significance difference between the Pre-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

7.There is no significance difference between the Post-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

8.There is no significance difference between the Pre-test mean score of male and female students of Experimental group.

9.There is no significance difference between the Post-test mean score of male and female students of Experimental group.

10.There is no significance difference between the Pre-test mean score of the students who prefers Traditional method of teaching and the students who ICT integrated approach teaching of Experimental group.

12.There is no significance difference between the Post-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

13.The Achievement scores of Mathematics among Experimental group students is high with respect to their variables.

3.10 METHODOLOGY OF THE STUDY

The present study comes under the purview of an Experimental study and was conducted by employing a True-Experimental Design. The design used in the present study was based on the Pre-test, Post-test Equivalent Group Design. Two groups (one Control group and one Experimental group) Experimental method followed in this study.

Control group- Pre-test- Teaching- Post test

Experimental group -Pre-test- intervention- post test

3.11 TOOLS USED FOR THIS STUDY

A. **ICT integrated based content**

B. Mathematics Achievement test.

3.12 CONSTRUCTION OF THE TOOL

A. ICT integrated based content.

The chief concern of the learning process was the content and its scrutiny, which plays a vital role in ICT integrated content learning. This content was prepared for the students of the fifth students. The content of the chapter Area and perimeter concepts, equivalent fractions, square and triangle numbers.

The content was divided into possible small fragments. ICT integrated approach like audio file, video lessons, kalvi tv videos, researchers made short videos, educational blogs, mathematics videos downloaded from internet applied for experiment group. In control group the investigator teaches traditional way of approach Mathematics concepts. Based on the ICT integrated approach. The investigator collect the material or contents and teaches among experimental group of students.

It plays a significant role in technology-based learning.

Pilot testing and experts' opinion

Pilot testing was done on the FIFTH Standard students of nagapattinam district. The students familiar with the use of computers, hence little instruction work effectively. The students and teacher observed the ICT integrated approch based content in the suggestions were obtained from the student as well as teachers. Necessary corrections were incorporated. The ICT integrated approach based content was also

shown to the subject expert in the field education technology as well as primary teachers. The suggestion from these subject experts duly incorporated.

B. Achievement test.

The following steps are involved in the development of Achievement test.

Preliminary Analysis

The investigator combined with Fifth Standard physics subject handling Teachers and prepared achievement test from Tamilnadu state board syllabus standard physics concepts like atomic and nuclear concepts, electrostatics of conductor, optical instruments, emf, electrostatics.

Planning the Test

The Test was designed to have as many items as possible for each of the three cognitive levels of Bloom's Taxonomy viz, Knowledge, Understanding, Application. This test was planned to have multiple choice items with four options.

Preparation of Items

Having gone through all the content like areas of atomic and nuclear concepts, electrostatics of conductor, optical instruments, emf, electrostatics to be tested 60 items with keys were prepared by the investigator and two physics teachers. The Scheme of award of a score 'One' to the correct response and 'Zero' to the wrong response for each item was fixed. Thus, the score for the achievement may range between 'Zero' and, 'Sixty' only.

Scrutiny by Specialists

The 60 test items with keys prepared and were gone through and scrutinized by subject specialist in physics in terms of the following aspects.
Clarity of the item, Specificity of the item, Brevity of the item, Accuracy of the key.

Refinement of Items

The items on which queries raised, clarification sought and modifications suggested by the specialists were refined and finally 30 questions were short listed on the basis of their comments.

Weightage to the objectives

While preparing test items for an achievement test, the teacher should give due weightage to all the objectives.

Pre-Try-out of the Test

For pre-try-out of achievement test was administrated. A few words were changed based on the reactions of the students and subject experts.

Formation of High and Low Achievement Groups

The scores were computed separately for students with the help of scoring key already fixed. The top 27% of the respondents constituted the high academic achievement group while the bottom 27% of the respondents was termed as low achievement group.

Item Analysis

The difficulty level and discriminating power of the 60 items were found out using the formulae given below.

$$\text{Difficulty Level} = \frac{R_H - R_L}{N}$$

RH - denotes the number of students from the high academic achievement group who have responded to the item correctly.

RL – denotes the number of students from the low academic achievement group who have responded to the item correctly.

N – denotes the total number of the students both high and low academic achievement group.

$$\text{Discriminating Power} = \frac{R_H - R_L}{N/2}$$

The difficulty level of an item can range between 'Zero' and 'One' while the discriminating power may range between -1 and +1

Selection of the Items

The items which come under the difficulty level between 0.2 and 0.6 and discriminating power of 0.2 and above were only included in the final test.

Table - 3.1: Norms of item discrimination

s.no	Item discrimination	
1	0.4 and above	Excellent
2	Between 0.3 and 0.4	Good item
3	Between 0.2 and 0.3	Average
4	Between 0.1 and 0.2	Requires improvement
5	Less than 0.1	Item to be dropped

Table - 3.2: Norms of item difficulty

s.no	Item difficulty	
1	Between 0.4 and 0.6	Average difficulty
2	Between 0.2 and 0.4	Difficulty
3	Between 0.6 and 0.8	Easy item
4	Between 0.8 and 1.0	Very easy item
5	Between 0 and 0.2	Very difficult item

TABLE-3.3: DETAILS OF DIFFICULTY LEVEL AND DISCRIMINATION POWER AND ITEMS SELECTED FOR FINAL TEST

S.NO.	ITEM	DIFFICULTY LEVEL	DISCRIMINATING POWER	WHETHER SELECTED OR NOT
1	Item 1	0.40	0.20	SELECTED
2	Item 2	0.52	0.26	NOT SELECTED
3	Item 3	0.41	0.21	SELECTED
4	Item 4	0.46	0.23	SELECTED
5	Item 5	0.52	0.26	SELECTED
6	Item 6	0.33	0.17	NOT SELECTED
7	Item 7	0.44	0.22	SELECTED
8	Item 8	0.27	0.14	NOT SELECTED
9	Item 9	0.87	0.43	NOT SELECTED

10	Item 10	0.38	0.19	NOT SELECTED
11	Item 11	0.45	0.22	SELECTED
12	Item 12	0.27	0.13	NOT SELECTED
13	Item 13	0.46	0.23	SELECTED
14	Item 14	0.10	0.05	NOT SELECTED
15	Item 15	0.47	0.24	SELECTED
16	Item 16	0.54	0.27	SELECTED
17	Item 17	0.48	0.13	NOT SELECTED
18	Item 18	0.46	0.23	SELECTED
19	Item 19	0.54	0.27	SELECTED
20	Item 20	0.44	0.14	NOT SELECTED
21	Item 21	0.70	0.35	NOT SELECTED
22	Item 22	0.42	0.21	SELECTED
23	Item 23	0.70	0.35	NOT SELECTED
24	Item 24	0.44	0.17	NOT SELECTED
25	Item 25	0.31	0.15	NOT SELECTED
26	Item 26	0.42	0.21	SELECTED
27	Item 27	0.69	0.34	NOT SELECTED
28	Item 28	0.45	0.22	SELECTED
29	Item 29	0.58	0.29	SELECTED
30	Item 30	0.68	0.34	NOT SELECTED
31	Item 31	0.62	0.31	NOT SELECTED
32	Item 32	0.47	0.24	SELECTED
33	Item 33	0.29	0.15	NOT SELECTED
34	Item 34	0.51	0.26	SELECTED
35	Item 35	0.21	0.11	NOT SELECTED
36	Item 36	0.60	0.30	SELECTED
37	Item 37	0.59	0.30	SELECTED
38	Item 38	0.29	0.15	NOT SELECTED
39	Item 39	0.56	0.28	SELECTED
40	Item 40	0.43	0.21	SELECTED
41	Item 41	0.52	0.26	SELECTED
42	Item 42	0.44	0.22	SELECTED
43	Item 43	0.40	0.20	NOT SELECTED
44	Item 44	0.62	0.31	NOT SELECTED
45	Item 45	0.50	0.25	SELECTED

46	Item 46	0.29	0.15	NOT SELECTED
47	Item 47	-0.02	-0.01	NOT SELECTED
48	Item 48	0.14	0.07	NOT SELECTED
49	Item 49	0.42	0.21	SELECTED
50	Item 50	0.41	0.21	SELECTED
51	Item 51	0.72	0.36	NOT SELECTED
52	Item 52	0.71	0.35	NOT SELECTED
53	Item 53	0.41	0.26	SELECTED
54	Item 54	0.20	0.10	NOT SELECTED
55	Item 55	0.19	0.09	NOT SELECTED
56	Item 56	0.49	0.25	SELECTED
57	Item 57	0.44	0.27	SELECTED
58	Item 58	0.35	0.17	NOT SELECTED
59	Item 59	0.43	0.22	SELECTED
60	Item 60	0.47	0.23	SELECTED

Final Test

The selected items are 30 in number, some items from knowledge level, some items from comprehension level, a few items from the application level, were included in the final test.

3.13 ESTABLISHMENT OF VALIDITY

(i) Content Validity

Content validity was established in the form of modification and refinement of the prepared items based on the reactions of the experts.

(ii) Item Validity

Item validity was established in terms of the items which came under the difficulty level of 0.2 and 0.6 and discriminating power of 0.2 and above were only included in the final test. The tool is a highly valid one.

3.14 SAMPLING TECHNIQUE

The investigator followed the purposive sampling technique. Investigator needs LCD projector, hi-tech lab computer facility and enough students' strength for two equal group designs. Hence the investigator visited many schools and finally selected

pups valivalam, and pups thirukkannapuram In nagapattinam district. A representative sample of each 30 students from two schools pups valivalam, and pups thirukkannapuram In nagapattinam district selected for the study. The investigator used a population classical Experimental design. In cooperating Pre-test Best and Kahn (1993) recommended that Pre-test and Post-test equivalent group design is the strongest one. The investigator meets the headmaster of the respective school and explain his Experimental study. The headmaster gave the permission to conduct experimental and administrate the achievement test tool. With the help of headmaster and FIFTH standard subject handling teachers the investigator selected 30 students (15 boys, 15 girls) in control group and 30 students (15 boys, 15 girls) for his Experimental study.

3.15 ADMINISTRATION OF PRE-TEST TOOL

The investigator administered the test tool to the fifth standard students to determine the level of understanding of the concept of mathematics. After administration of achievement test the data tabulated and both the group (Control, Experimental) having the similar level of understanding in the physics concepts. After administering the Pre-test tool, the investigator followed the traditional teaching method to the Control group and ICT integrated teaching method to the Experimental group.

3.16 ADMINISTRATION OF POST-TEST TOOL

After giving treatment, the achievement test was administered to the both group students to measure the Post-test score.

3.17 SCORING PROCEDURE

The answer script of the conducted Pre and Post-test were collected and scored based on the scoring key. To score the test it was decided to give one mark as weightage for each correct answer, here maximum score 30 and minimum score zero were possible.

3.18 DATA COLLECTION

The required data were collected with the help of Pre-test, Post-test. In between Pre-test and Post-test researcher implemented the ICT based teaching method with the help of the Integrated ICT content taught on the Experimental group and Control group was taught the same topic with the help of their teacher by normal teaching method. After implementation researcher administrated Post-test. The same Pre-test was used as Post-test.

3.19 ANALYSIS

As the present study is an experiment in nature after conducting the Pre-test and Post-test the data have been collected, the score was tabulated then the Scores were used for the statistical analysis, the analysis are mean and standard deviation 't' test.

CHAPTER 4

ANALYSIS AND INTERPREATATION OF DATA

4.1 ANALYSIS AND INTERPREATATION OF RESULTS

This chapter presents the details of data analysis and the interpretation of results. The results are represented after testing each hypothesis. There is main variable called utilization of e resources and achievement of physics.in the present study the investigator intents to know the achievement of higher secondary students in physics. The study intents to know to find out whether there is any significant of student achievement by utilizing selected e resources. Then the influence e-resources and achievement are found.

Data analysis and interpretation is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings. The steps involved in data analysis are a function of the type of information collected, however, returning to the purpose of the assessment and the assessment questions will provide a structure for the organization of the data and a focus for the analysis.

The analysis of numerical or quantitative data is represented in mathematical terms. The most common statistical terms include:

- Mean – The mean score represents a numerical average for a set of responses.
- Standard deviation – The standard deviation represents the distribution of the responses around the mean. It indicates the degree of consistency among the responses. The standard deviation, in conjunction with the mean, provides a better understanding of the data. For example, if the mean is 3.3 with a standard deviation (StD) of 0.4, then two-thirds of the responses lie between 2.9 (3.3 – 0.4) and 3.7 (3.3 + 0.4).
- Frequency distribution – Frequency distribution indicates the frequency of each response. For example, if respondents answer a question using an agree/disagree scale,

the percentage of respondents who selected each response on the scale would be indicated. The frequency distribution provides additional information beyond the mean, since it allows for examining the level of consensus among the data.

Higher levels of statistical analysis (e.g., t-test, factor analysis, regression, ANOVA) can be conducted on the data, but these are not frequently used in most Research Studies

4.2 DESCRIPTVE STATISTICAL ANALYSIS

4.2.1 DESCRIPTIVE ANALYSIS

It involves calculation of the mean and standard deviation. These two are more useful to determine the central tendencies and dispersion of variables selected for the study. The calculated value of the means and standard deviation are used to describe the properties of a particular sample. Descriptive statistics is used to reduce the bulk of data in manageable size

A descriptive statistical analysis is carried out to see the utilization of e resources in achievement of physics.

4.3 COMPUTATION OF GAIN SCORE

The Gain score was computed as noted below,

Gain score (G.S) = Post-test score – Pre-test score

4.4 DESCRIPTIVE ANALYSIS

TABLE-4.1:

 DETAILS OF SCORE OF PRE-TESTS, POST-TEST, GAIN SCORE OF CONTROL GROUP

S.NO	PRE-TEST	POST-TEST	GAINSCORE
1	8	14	6
2	9	15	6
3	5	16	11
4	8	17	9
5	7	14	7
6	8	13	5
7	7	14	7
8	8	12	4
9	7	13	6
10	8	12	4
11	8	15	7
12	9	14	5
13	7	17	10
14	6	16	10
15	8	13	5
16	7	14	7
17	5	14	9
18	8	14	6
19	9	10	1
20	7	10	3
21	8	12	4
22	7	13	6
23	8	12	4
24	8	15	7
25	9	14	5
26	7	17	10
27	6	16	10
28	8	13	5
29	7	14	7
30	5	14	9

TABLE-4.2:

DETAILS OF SCORE OF PRE-TESTS, POST-TEST, GAIN SCORE OF EXPERIMENTAL GROUP

S.NO	PRE-TEST	POST-TEST	GAIN SCORE
1	8	27	19
2	10	25	15
3	9	24	15
4	8	21	13
5	10	20	10
6	7	23	16
7	11	23	12
8	9	21	12
9	8	22	14
10	9	21	12
11	8	27	19
12	9	26	17
13	8	23	15
14	12	20	8
15	10	19	9
16	7	21	14
17	8	22	14
18	9	21	12
19	8	22	14
20	7	21	14
21	8	21	13
22	8	22	14
23	7	21	14
24	8	27	19
25	10	20	10
26	8	27	19
27	7	21	14
28	8	22	14
29	7	21	14
30	10	20	10

ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO GENDER

(CONTROL GROUP)

The hypothesis states that male and female students in control group do not differ significantly Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

. The hypothesis is tested and the results are prescribed in **table 4.3** below

Comparison Between pre-test male and female in control group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

Table 4.3

Pre-Test	Number	Mean	SD	"t" value
Control Group male	**15**	7.00	1.095	**0.590**
control Group female	15	7.25	1.024	

The t- test results shows that statistics of value 0.590 which is not significant in table value. The results indicate that male and female students in control group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

GRAPH – 4.3.1

Control Group Pre-test   Mathematics Achievement score boys and girls Comparison bar chart
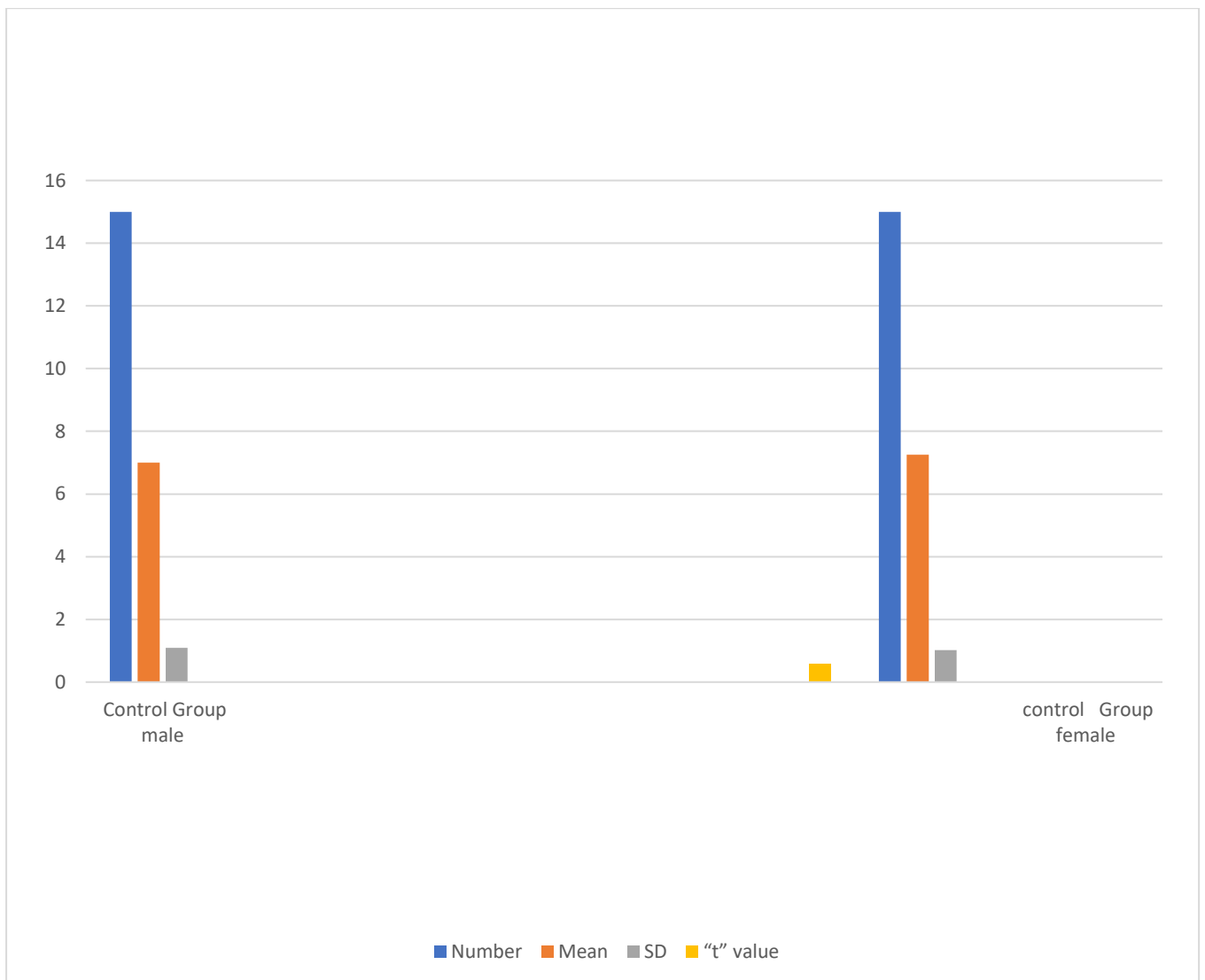
ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO GENDER (EXPERIMENTAL GROUP)

The hypothesis states that male and female students in experimental group do not differ significantly of Select learning outcomes in Mathematics among Fifth Standard Students**.**

. The hypothesis is tested and the results are prescribed in **table 4.4** below

Table 4.4

Comparison Between pre-test male and female in Experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Pre-Test	Number	Mean	SD	"t" value
Experimental group (Male)	**15**	8.7	1.280	
Experimental group (Female)	**15**	9.2	1.470	**0.760**

The t- test results shows that statistics of value 0.760 which is not significant in table value. The results indicate that male and female students in experimental group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

GRAPH – 4.4.1

Comparison Between pre-test male and female in Experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.
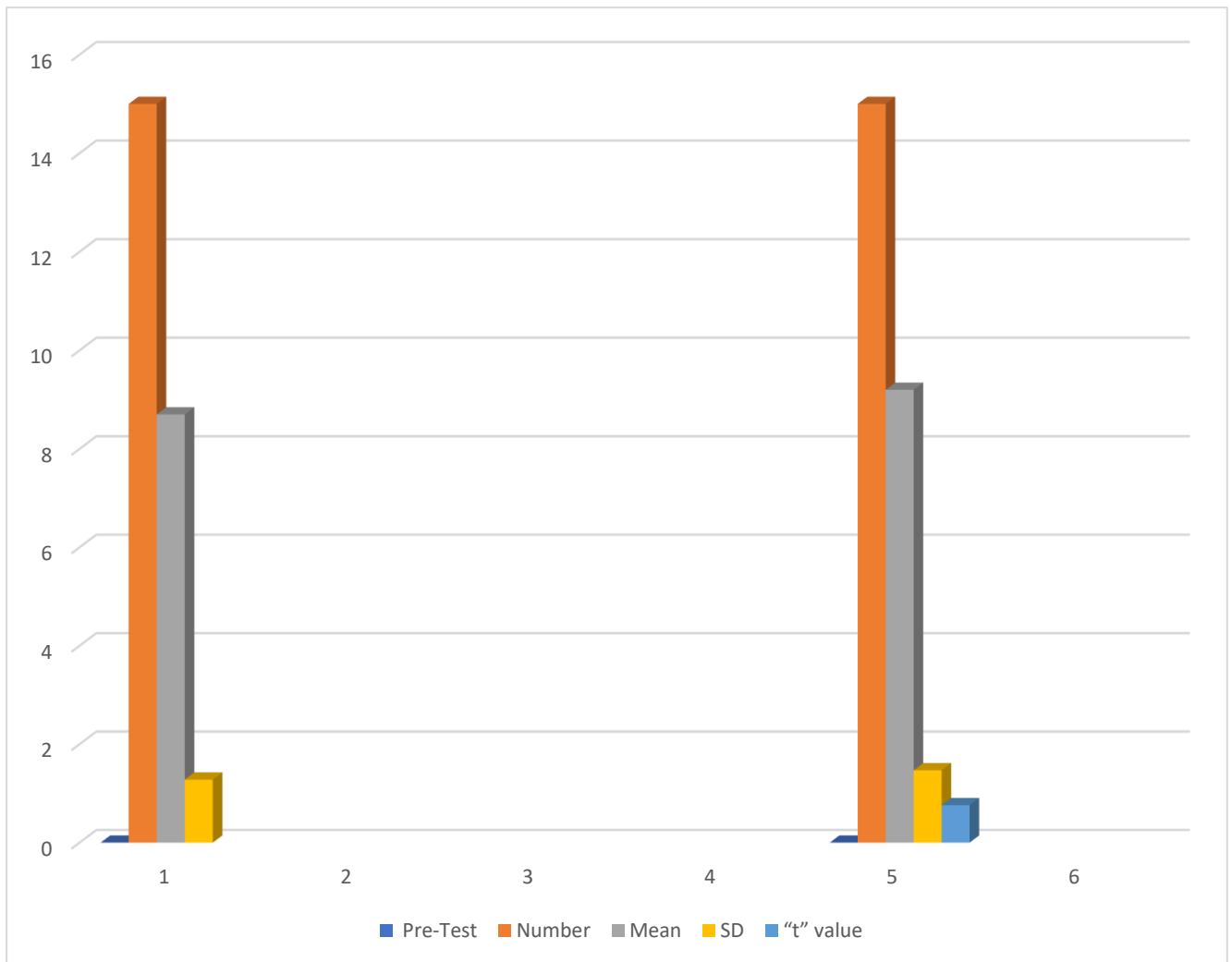
.

ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO GENDER (CONTROL GROUP) POST TEST

The hypothesis states that male and female students in control group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

. The hypothesis is tested and the results are prescribed in **table 4.5** below

Table 4.5

Comparison Between post-test male and female in control group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Post-Test	Number	Mean	SD	"t" value
Control Group (Male)	**15**	14.00	1.549	
Control Group (Female)	**15**	13.7	2.147	**0.358**

The t- test results shows that statistics of value 0.358 which is not significant in table value. The results indicate that male and female students in control group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

GRAPH – 4.5.1

Comparison Between post-test male and female in control group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.
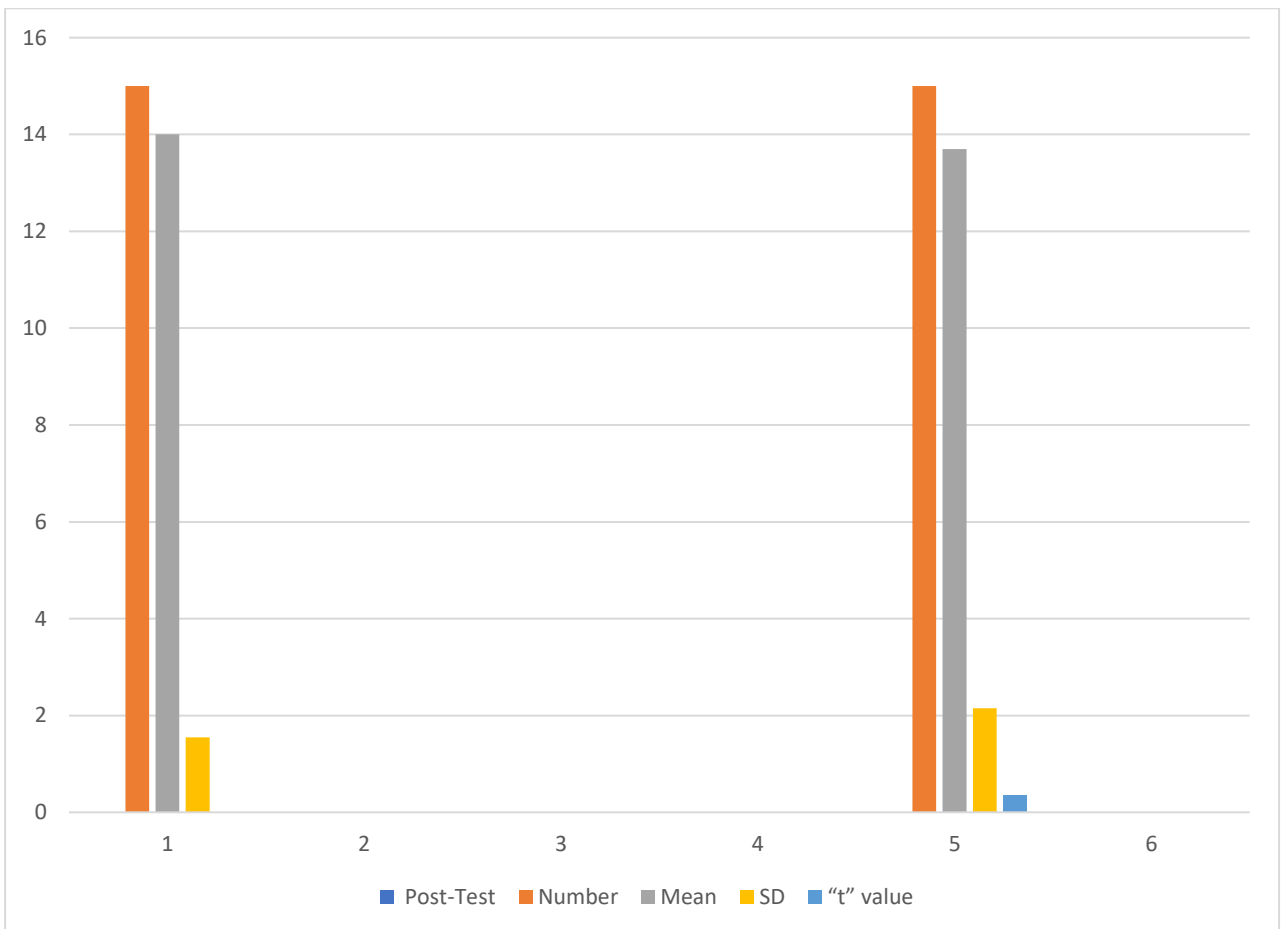
.

ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO GENDER (EXPERIMENTAL GROUP)

The hypothesis states that male and female students in experimental group do not differ significantly on Achievement of Select learning outcomes in Mathematics among Fifth Standard Students. The hypothesis is tested and the results are prescribed in table 4.6 below

Table 4.6

Comparison Between post-test male and female in experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Post -Test	Number	Mean	SD	"t" value
Experimental Group (Male)	**15**	22.7	2.051	
Experimental Group (Female)	**15**	22.2	2.4	**0.998**

The t- test results shows that statistics of value 0.998 which is not significant in table value. The results indicate that male and female students in experimental group do not differ significantly group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

GRAPH – 4.6.1

Comparison Between post-test male and female in experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**
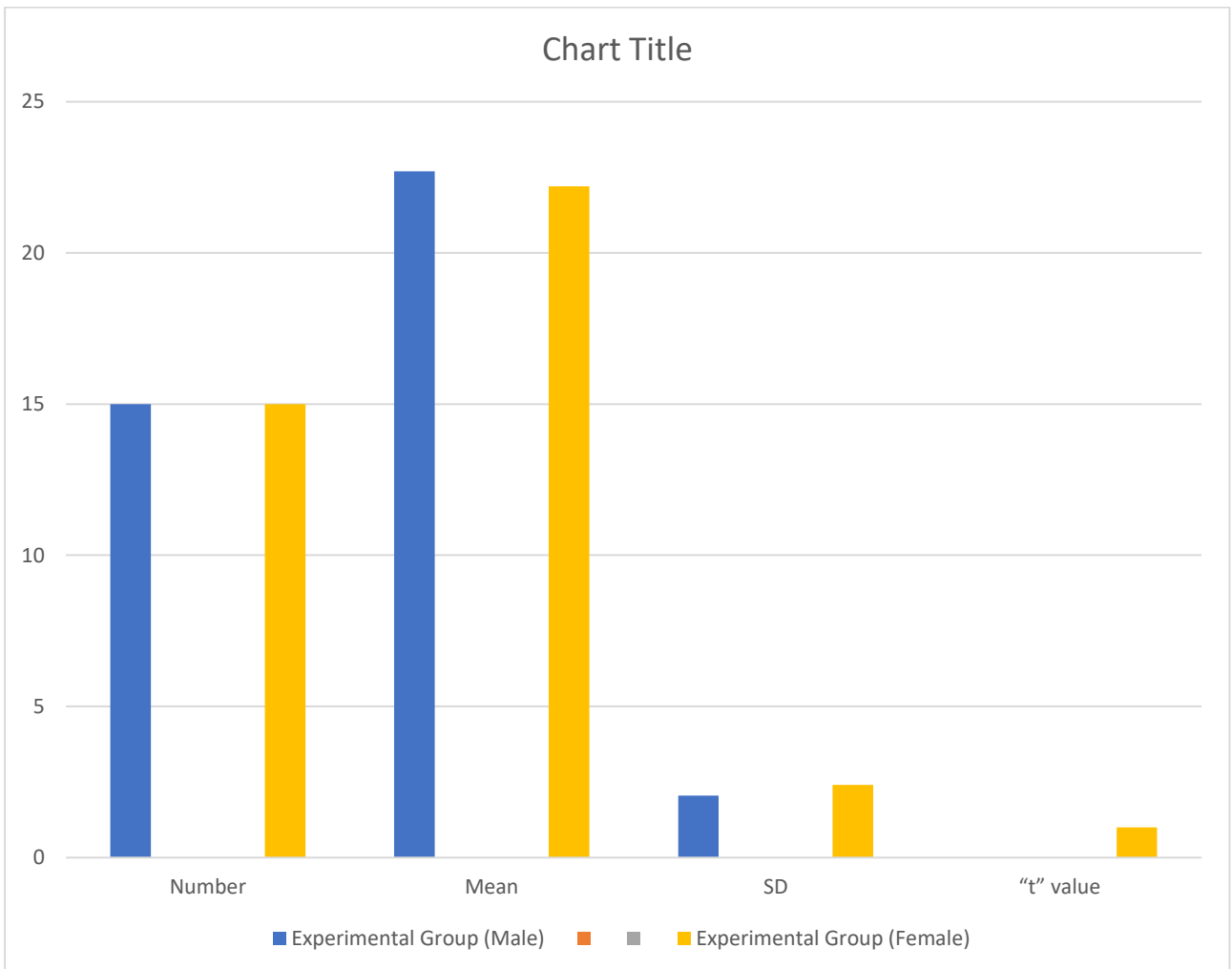

Chart Title

ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO CONTROL GROUP AND EXPERIMENTAL GROUP) PRE-TEST

The hypothesis states that male and female students in control group do not differ significantly of Select learning outcomes in Mathematics among Fifth Standard Students**.**

. The hypothesis is tested and the results are prescribed in **table 4.7** below

Table 4.7

Comparison Between pre-test control group and Experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Pre-Test	Number	Mean	SD	"t" value
Control Group	**30**	7.25	1.059	
Experimental Group	**30**	8.95	1.375	**0.909**

The t- test results shows that statistics of value 0.909 which is not significant in table value. The results indicate that male and female students in both control and experimental group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

GRAPH – 4.7.1

Comparison Between pre-test control group and experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.
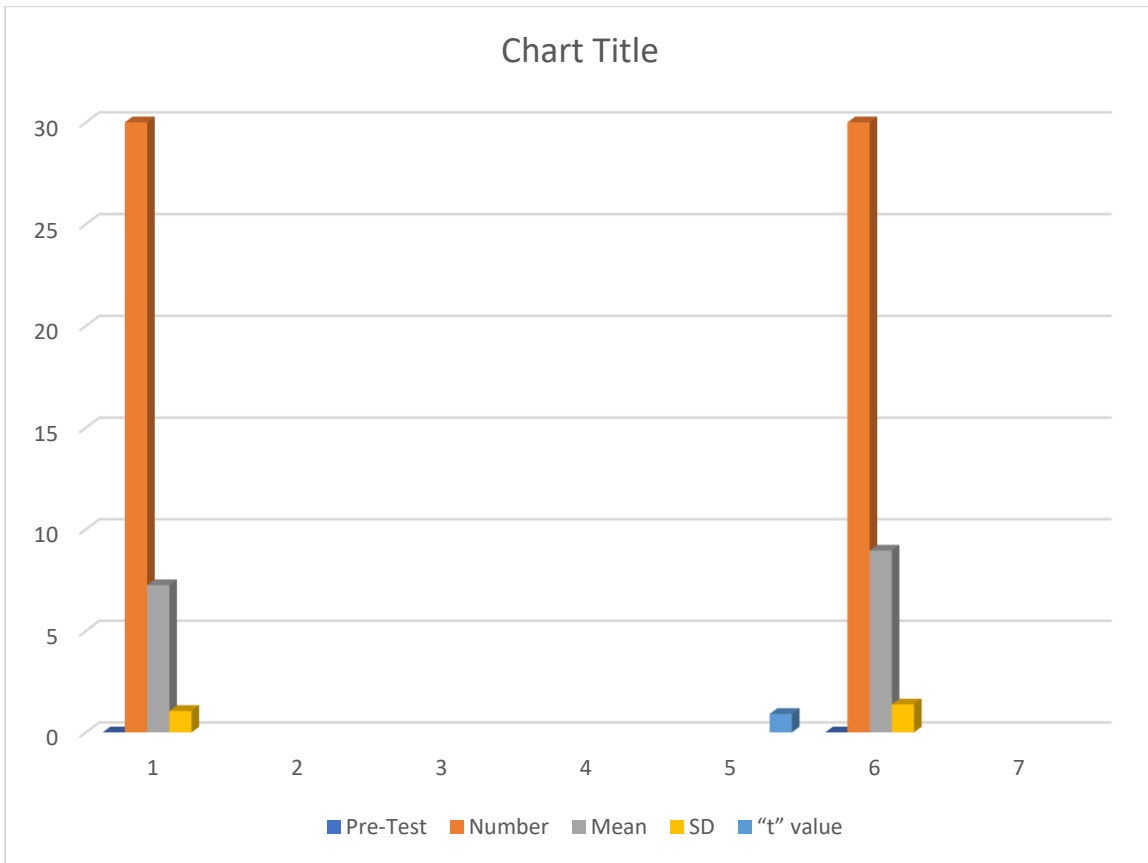
ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO CONTROL GROUP AND EXPERIMENTAL GROUP) POST TEST

The hypothesis states female students in both control and experimental group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

. The hypothesis is tested and the results are prescribed in **table 4.8** below

Table 4.8

Comparison Between control group and Experimental group in Post Test Female in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Post Test	Number	Mean	SD	"t" value
Control Group Female	15	13.7	2.147	**8.317**
Experimental Group Female	**15**	22.2	2.4	

The t- test results shows that statistics of value 8.317 which is significant in table value. The calculated t- value was greater than the table t- value and hence the hypothesis was rejected. The results indicate that female students in both control and experimental group differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

GRAPH – 4.8.1

Comparison Between control group and Experimental group in Post Test Female in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.
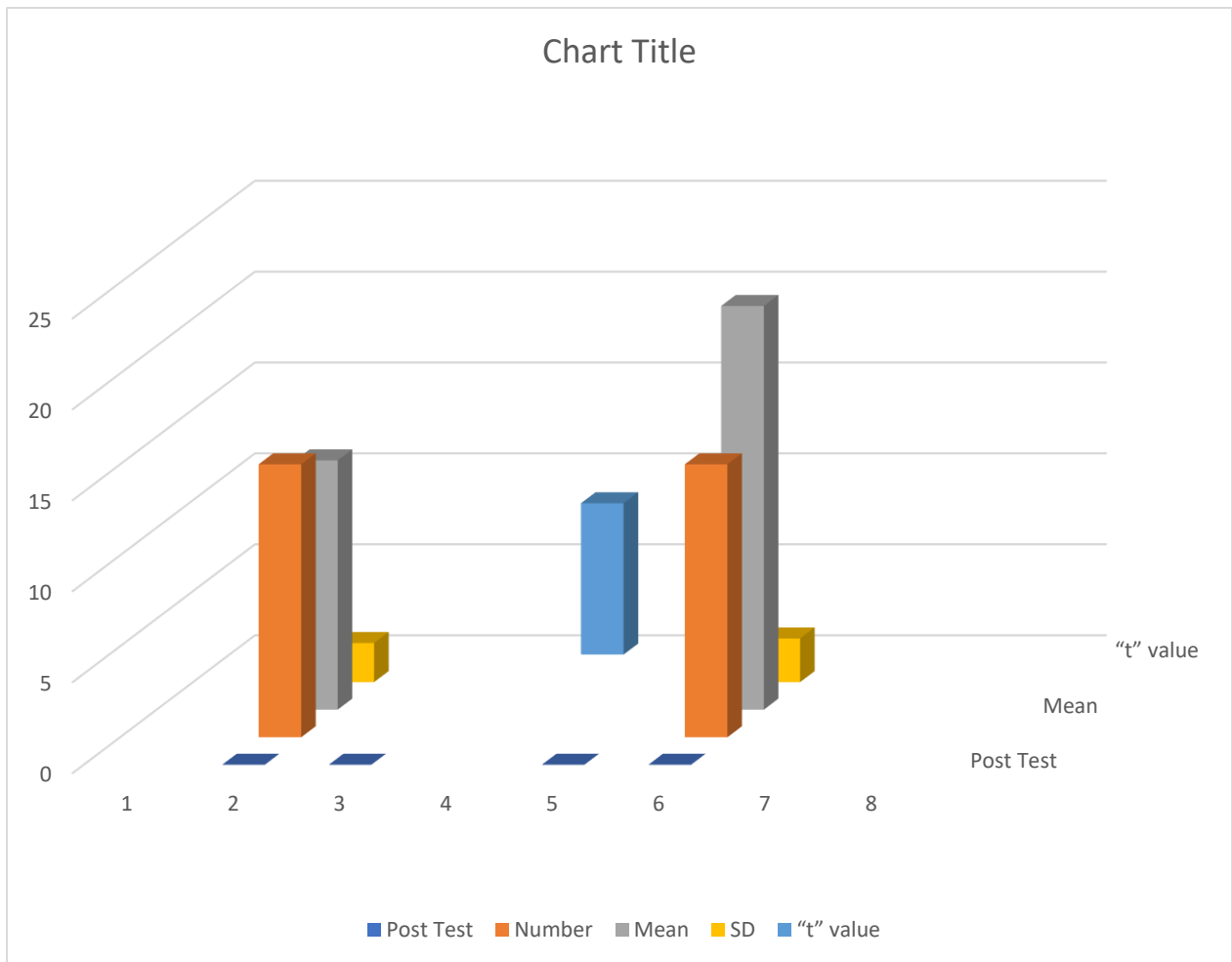
.

ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO CONTROL GROUP AND EXPERIMENTAL GROUP) POST TEST

The hypothesis states that male students in control group do not differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

. The hypothesis is tested and the results are prescribed in **table 4.9** below

Table 4.9

Comparison Between post-test control group and experimental group Male in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Post Test	Number	Mean	SD	"t" value
Control Group Male	**15**	**14.0**	**1.549**	**8.17**
Experimental Group Male	**15**	**22.2**	**2.051**	

The t- test results shows that statistics of value 12.41 which is significant in table value. The calculated t- value was greater than the table t- value and hence the hypothesis was rejected. The results indicate that male students in both control and experimental group differ significantly in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

GRAPH – 4.9.1

Comparison Between post-test control group and experimental group Male in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.
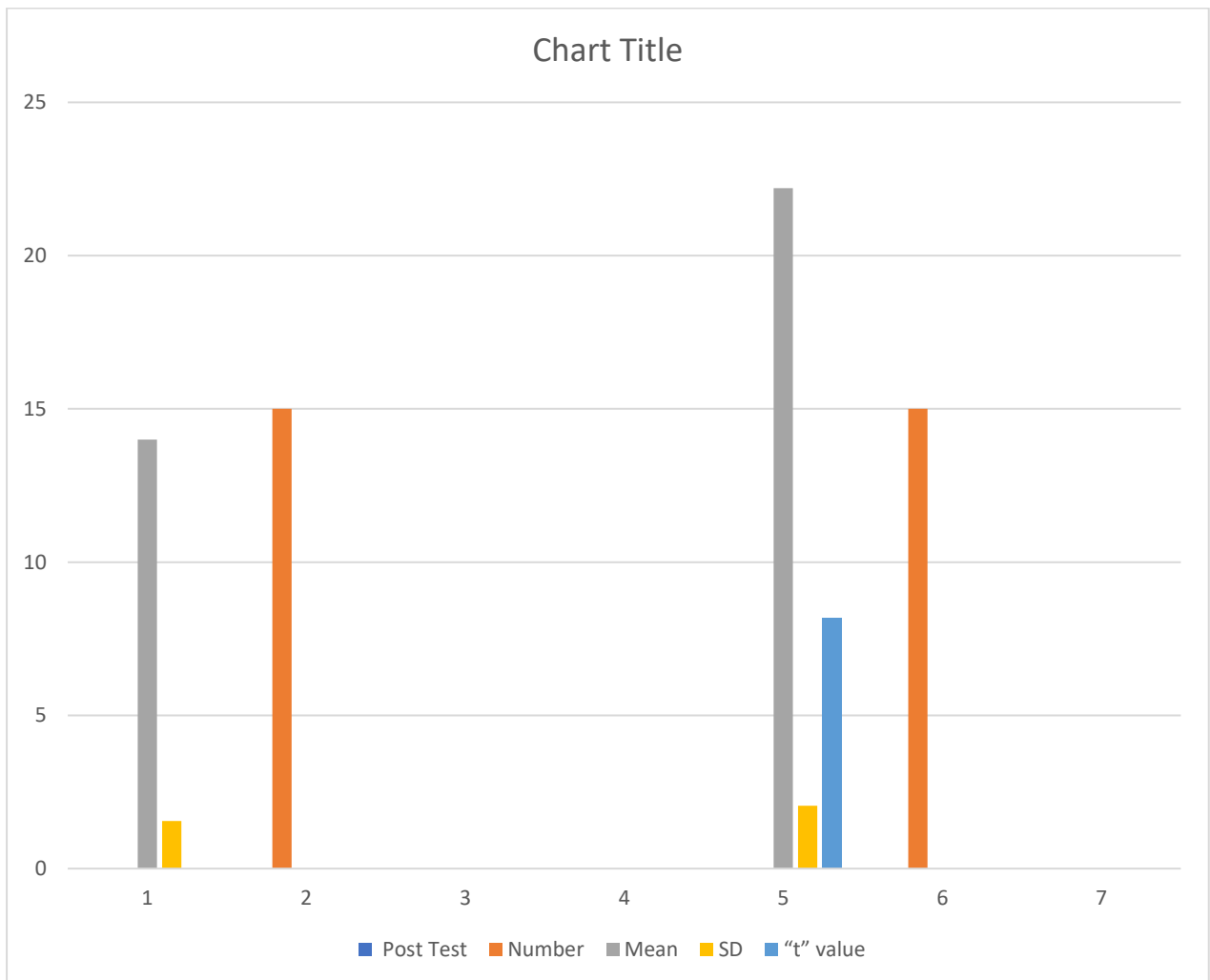
.

ENNUM EZUTHUN CLASSROOM APPROACH WITH RESPECT TO CONTROL GROUP AND EXPERIMENTAL GROUP) POST TEST

The hypothesis states that male and female students in both control group and experimental group do not differ significantly   in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

. The hypothesis is tested and the results are prescribed in **table 4.10** below

Table 4.10

Comparison Between post-test control group and experimental group in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students.

.

Post Test	Number	Mean	SD	"t" value
Control Group	**30**	**13.85**	**1.848**	**8.64**
Experimental Group	**30**	**22.45**	**2.225**	

The t- test results shows that statistics of value 8.64 which is significant in table value. The calculated t- value was greater than the table t- value and hence the hypothesis was rejected. The results indicate that female students in both control and experimental group differ significantly   in Achievement of Select learning outcomes in Mathematics among Fifth Standard Students**.**

GRAPH – 4.10.1

Comparison Between post-test control group and experimental group in Achievement of   Select learning outcomes in Mathematics among Fifth Standard Students.
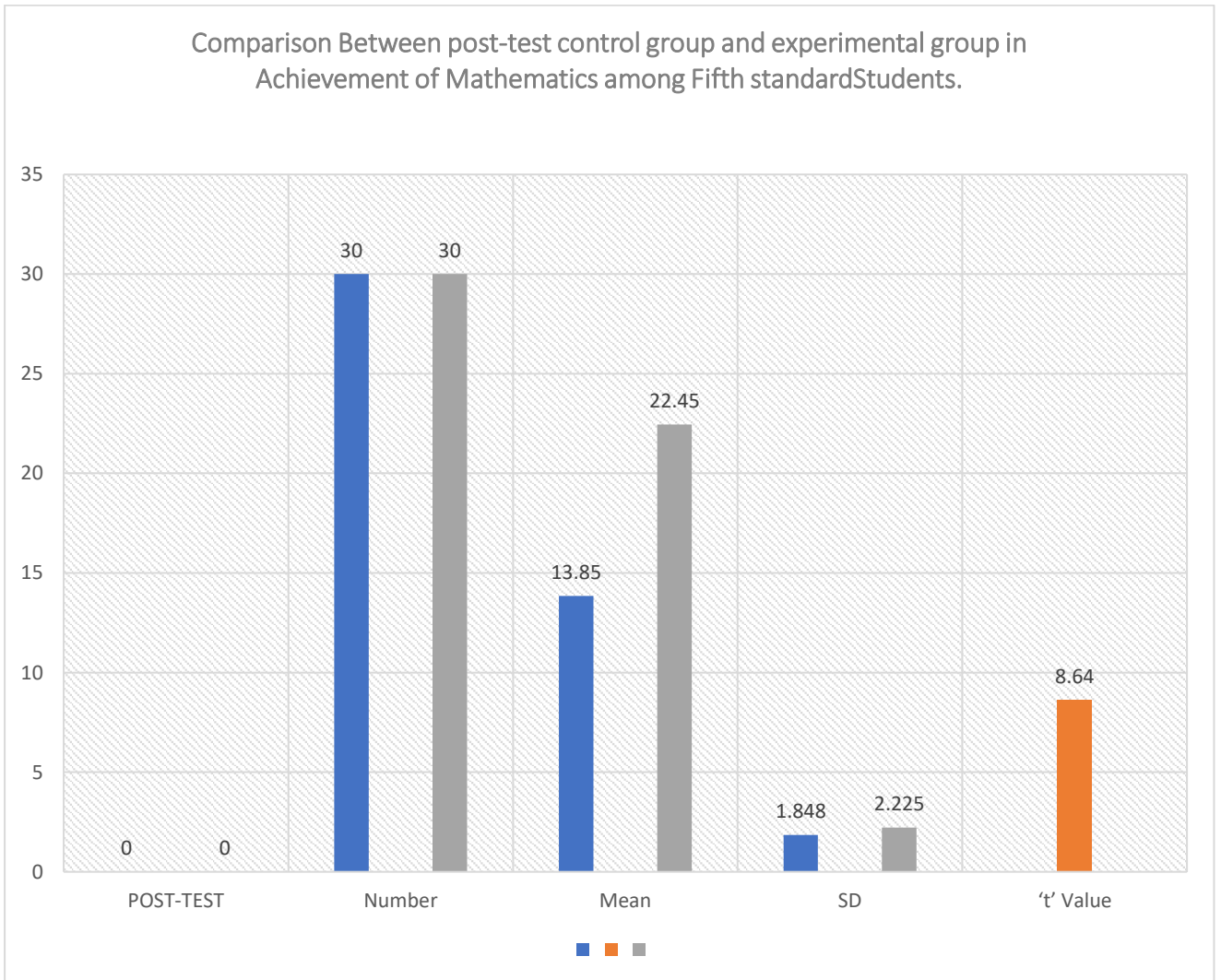

Comparison Between post-test control group and experimental group in Achievement of Mathematics among Fifth standardStudents.

CHAPTER V

SUMMARY, FINDINGS, DISCUSSION, CONCULSION, AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 INTRODUCTION

In the previous chapters, the relevant theoretical aspects and different stages of conducting the survey were presented. This chapter is devoted for presenting the most significant element of the research the outcome. Any research is evaluated on the basis of the objectives formulated prior to the experimentation, the accurate procedure was adopted and the clear outcome has been obtained from the study. In this chapter, the focus of attention is on the results or outcomes of the research and implications. The outcomes of any research are to be judged on the purpose or objectives of the study. Learning outcomes is a path of students to enrich the content in all subjects of their learning teaching process. For physics subject the

Learning outcimes plays a vital role for achieving National level exams like NMMS, NEET etc. The purpose of our project focus to enhance the select learning outcomes in mathematics among the fifth standard students through ennum ezuthum classroom approach

5.2 RESTATEMENT OF THE PROBLEM

Physics is a subject which is dealt day to day life activities. It should be learned through practical experiences and by learning by doing activities. The investigator thinks that e-resources content will be used for the teaching physics subject. He also wants to test the utilization of e-resources in physics subjects. The teachers are not aware of the importance of e-resources in teaching and learning process. Hence, in this study, the investigator wants to teach with the help e-resources and find out the effectiveness. After teaching the lesson through e-resources, the investigator aims to find out the mastery level of students in selected physics concepts.

5.3 OBJECTIVES OF THE STUDY

- To identify the low achievement of select learning outcomes in Mathematics among the Fifth standard students

- To analyses the possible causes for the low achievement in select learning outcomes in Mathematics among the Fifth standard students.

- To find out the achievement level of Mathematics among Fifth standard students in pre- test.

- To select and use Ennum Ezuthum ICT strategies for select learning outcomes in Mathematics among the Fifth standard students.

- To find out the achievement level of Mathematics among Fifth standard students in post- test.

4. To find out the mean scores of differences in Achievement of Mathematics in control and experimental group

5.To find out the mean score's differences between Control group and Experimental group.

6.To find out the achievement of mathematics among Experimental group

7.To find out whether there is any significant difference between the Pre-test, Post-test mean score of Control group and Experimental group.

8.To find out the achievement of mathematics among Control and Experimental group with respect to their variables.

5.4 HYPOTHESES OF THE STUDY

1.Achievement scores of selected learning outcomes in mathematics among Experimental group is high.

2.There is no significance difference between the Pre-test mean score of Control group and Experimental group.

3.There is no significance difference between the Post-test mean score of Control group and Experimental group.

4.There is no significance difference between the Pre-test mean score of male and female students of Control group.

5.There is no significance difference between the Post-test mean score of male and female students of Control group.

6.There is no significance difference between the Pre-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

7.There is no significance difference between the Post-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

8.There is no significance difference between the Pre-test mean score of male and female students of Experimental group.

9.There is no significance difference between the Post-test mean score of male and female students of Experimental group.

10.There is no significance difference between the Pre-test mean score of the students who prefers Traditional method of teaching and the students who ICT integrated approach teaching of Experimental group.

12.There is no significance difference between the Post-test mean score of the students who prefers Traditional method of teaching and the students who prefers ICT integrated approach teaching of Experimental group.

13.The Achievement scores of Mathematics among Experimental group students is high with respect to their variables.

5.5METHODOLOGY OF THE STUDY

The present study comes under the purview of an Experimental study and was

conducted by employing a True-Experimental Design. The design used in the present study was based on the Pre-test, Post-test Equivalent Group Design. Two groups (one Control group and one Experimental group) Experimental method followed in this study.

Control group- Pre-test- Teaching- Post test

Experimental group -Pre-test- intervention- post test

5.6 RESTATEMENT OF THE METHODOLOGY

The present study comes under the purview of an Experimental study and was conducted by employing a True-Experimental Design. The design used in the present study was based on the Pre-test, Post-test Equivalent Group Design. Two groups (one Control group and one Experimental group) Experimental method followed in this study. Control group- Pre-test- Teaching- post-test Experimental group -Pre-test- intervention- post-test.

5.7.MAJOR FINDINGS

1 The results of the study provoked significance of technology oriented Ennum Ezuthum approach among the students.

2. The Experimental Group Ennum Ezuthum ICT adopted Approach could significantly improve the achievement score among the 5th standard students.

3. The hypothesis states that male and female students in both control group and experimental group do not differ significantly on Achievement score. The t- test results shows that statistics of value 12.10 which is significant in table value. The calculated t- value was greater than the table t- value and hence the hypothesis was rejected. The results indicate that both control and experimental group differ significantly on Achievement score among 5th Std Students.

.

5.8. EDUCATIONAL IMPLICATIONS

1. ICT adopted Ennum Ezuthum approach is more effective compared to conventional classroom teaching.

2.ICT gives a self -confident among the students

3.It promotes experimental learning and self -learning among learners

4.This helps reduces the wastage to testing learning process considerable extent.

5.This study helps to implement various school subjects like Tamil, English, Evs, in elementary   level

6. This study helps us to future researcher to identify the ICT skills by apply various subjects to uplift the educational aspects of social welfare

5.9 SUGGESTIONS FOR FURTHER RESEARCH

The following are some suggestions for future research

1. The investigator has selected 30 samples for Experimental group and 30 samples for control group. The number of samples increased may confirm the findings.

2. Development of creativity through ICT based content can be utilized.

3. Study may be undertaken by making use of latest technologies for teaching students.

4. Similar study can be done on other subjects and conducted for all levels of students.

5.10.CONCLUSION

The development of Mathematics incorporated with ICT skills could definitely offer better ways for teaching and learning. Adoption of ICT techniques and Tools for teaching learning in a regular classroom increase students' active involvement and learning. A good rich learning environment can assist students as they develop understanding, interest, self-directed learning, and curiosity. ICT adopted Ennum Ezuthum approach enhances the teacher as well as the student's ability in terms of teaching and learning. It could be surmised from the study that the Experimental group performed at a better level when compared to the Control group

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DISTRICT INSTITUTE OF EDUCATION AND TRAINING

KURUKKATHI, NAGAPATTINAM DISTRICT

RESEARCH TOOL

MATHS ACHIVEMENT QUESTIONNAIRE

M515;   Identifies the pattern in triangular pattern and square numbers

REFERENCE ; II ND TERM CHAPTER 2 NUMBERS PAGE NO 5,6,7,56,57,58

District Average Performance; **39**

State   Average Performance: 43

National Average Performance:46

QUS 1.

When we arrange dots equal to numbers, 3,6,10 we get Triangles such numbers are called,

A) **Triangle Numbers** B) square number C) Rectangular number D) Fractional Numbers

QUS 2

To get triangular numbers, keep on adding the next---------------

A) Triangular numbers B) square number C) Rectangular number D) **Natural Numbers**

QUS 3

From the option given below, Find out the wrong Triangular numbers,

A) 3   B) 6   C)10   D) **9**

QUS 4

From the option given below, find the correct relationship between triangle numbers and natural numbers

A) **1+2=3**   B) 2+3=5   C) 2+3+4=9   D) 1+1=2

QUS 5

When we arrange numbers equal to dots, 4,9,16   we get squares such numbers are called,

A) Triangle Numbers B**) square number** C) Rectangular number D) Fractional Numbers

QUS 6

As we are making squares each horizontal and vertical rows needs to have equal number of dots called

B) Triangle Numbers sequence B) **square number sequence** C) Rectangular number sequence D) Fractional Numbers sequence

QUS 7

To get a square number, ----------------

A) keep on adding the next B) keep on adding the next C) keep on adding the next D) **Multiply a given number by itself**

QUS 8

From the option given below, Find out the wrong square numbers,

A) 4   B) 6   C)16   D) 9

M512 Explores the area and perimeter of simple geometrical shapes (triangle,rectangle,square) in terms of a given shape as a unit

5 TH STD MATHS TERM 3 UNIT GEOMETRY

District Average Performance; **34**

State   Average Performance: 34

National Average Performance:36

QUS 9

----------- means some of the length of all the sides of a closed area is called

A) Perimeter   B) Diameter   C) area   D) Radius

QUS 10

If u draw a square all the sides PS=4 cm ,RS=4cm, QR=4cm, QP=4 cm then the perimeter value is

A) 16 M   **B) 16 CM**   C) 16 N   D) 16 Rad/sec

QUS 11

If u draw a Rectangle AB =3 cm , AC=5cm, BC=7cm, then the perimeter value is

A) 12 CM   B) 14CM   C) 13 CM   **D) 15 CM**

QUS 12

 The formula for Perimeter of a rectangle is

A) **(2Multiply length) + (2Multiply breath)** B) (4Multiply length) + (2Multiply breath)

C) (2Multiply length) + (4Multiply breath)   D) (4Multiply length) + (4Multiply breath)

QUS 13

The rule of perimeter of a rectangle is

A) **Opposite sides of a rectangle are equal**) Opposite sides of a rectangle are not equal

   C) Opposite sides of a rectangle are reverse D) Opposite sides of a rectangle are irrevise

QUS 14

If u draw a PQRS Rectangle the length is 5 cm and its breadth is 2cm then the perimeter value is

A) **14 CM**   B) 11CM   C) 13 CM   D) 12 CM

QUS 15

 The formula for Perimeter of a S is

A) **(4Multiply(the length of one side))** B(2Multiply(the length of one side))

B) (3Multiply(the length of one side))D) (1Multiply(the length of one side))

QUS 16

The length of one side of a square is 7cm,find its perimeter

A) 14 CM   B) 11CM   C) 13 CM   D) **28 CM**

QUS 17

The length of the rectangle park is is 60 cm, while its width is 50 cm what is its width perimeter?

A) 214 CM   B) 211CM   C) 220 CM   D) 228 CM

QUS 18

How much wire will be needed to put a triple fence around a square plot with side 20 cm? what will be the total cost of the wire at 50 rupees per metre?

A) **12000 rupees**   B)11000 rupees   C)10000 rupees   D) 13000 rupees

QUS 19

Sanju completes 10 rounds around a square park every day. If one side of the park is 110 m, then find the distance covered by Sanju in a day in terms of kilometres and metres

A) 4.4KM   B)440M   C) **4.4KM AND 440M**   D) 400 CM

QUS 20

What is the area of a rectangle of length 10 cm and breath 8 cm?

A) 180 sq.cm   B)280 sq.cm   C)380 sq.cm   **D) 80 sq.cm**

QUS 21

A Wall that is 6m long and 2m wide has to be painted.If the labour charges are 20 per sq.m,then what is the cost of labour for painting the wall?

A) 180 rupees   B)280 rupees   C)240 rupees   D) **80** rupees

Qus 22

What is the area of square with side 12 cm?

A) **144 sq.cm**   B)280 **sq.cm**   C)240 **sq.cm**   D) **80 sq.cm**

QUS 23

One side of a squre room is 3m.If the cost of labour for laying 1 sq.m of the floor 25 rupees,then what is the total cost of labour?

A) **180** rupees   B)280 rupees   C)240 rupees   D) **225**rupees

M506 identifies and forms of equivalent fractions of a given fraction

5 TH STD MATHS TERM 3 UNIT 3   EQUIVALENT FRACTIONS

District Average Performance; **38**

State   Average Performance: 36

National Average Performance:38

QUS 24

Thus the eqivalent fractions of ¾ is

a) 6/8 B) **9/12** C) 12/16 D) all of these

QUS 25

 Equivalent Fractions can be defined as fractions that may have------------numerators and denominators but they represent the-------

a) Different, same value B) same value, Different C Different, Different) same value, same value

QUS 26

--------------- are the ratios that are the same when we compare them

A) Rational ratio b) equivalent ratio c) ratio d)consumed ratio

QUS 27

Thus the eqivalent fractions of 2/4 is

a) 6/8 B) 9/12 C) 12/16 D) 3/6

QUS 28

Thus the eqivalent fractions of 3/6 is

a) 6/8 B) 9/12 C) 12/16 D) 2/3

QUS 29

Thus the eqivalent fractions of 2/6 is

a) 6/8 B) **9/12** C) 12/16 **D) 3/9**

QUS 30

Thus the eqivalent fractions of 2/6 is

a) 6/8 B) 9/12 C) 12/16 **D) 3/9**

Photos

Proposal approval Meet

Post -Test conducting

Experimental Group Teaching