***NE believes that knowledge should be free and should be available to everyone at no cost or at very low cost irrespective of his/her class, caste, gender and geographical location!!!***

**About Us**

Navnirmiti Eduquality (NE) is a not for profit, self-reliant social enterprise working for universalisation of quality education. NE believes in the secular values of Indian constitution and right to good quality education for all. We work with a definite vision of ‘Quality Education for all ’ to achieve Quality for Equality and social empowerment.

Our work since 1995 has been aimed at propagating meaningful education, through alternative methods and learner centric pedagogy that would enable learning by understanding for all. We design, develop and disseminate innovative learning methods, tools that help children learn in joyful and understanding ways.

We have been working in the field of Math, Science and Early Childhood Education. With ‘Quality for Equality’ as its motto, NE is focused on developing high quality, low cost/no cost (LCNC) learning methods to teach elementary science and mathematics in creative and innovative ways that make learning a joyful process. We integrate the hands on activities, leaning by doing and learning practices across the world.

The alternative activity based ways of learning by doing promotes inquisitiveness, rational thinking, scientific temperament and problem solving abilities. The high quality, innovative learning methods of teaching and learning with special focus in elementary Math and Science through creative hands on tools are aimed at learning by children from all sections of the society.

As a Self-Reliant way of working, we believe in generating income and resources to support our activities and vision.

**Vission, Mission & principles**

We strive toachieve “Quality Education for All” with a motto of “Quality for Equality”

We work in accordance with NCF outlines for education towards the goal of Quality Education for All.

NE firmly believes in the fundamental rights of every Indian citizen for a good quality education provided by the Indian constitution under the Right to Education Act. Our efforts are aimed at strengthening the constitutional mandate of RTE, in accordance with the principles laid down in NCF 2005.

* Propagate alternative activity based ways of learning to promote inquisitive, rational thinking.
* Child centric pedagogy of do and discover method, learning by doing and understanding for joyful and meaningful learning.
* High quality innovative learning methods of teaching and learning in elementary science and mathematics & ECE along with creative hands on tools help learning a joyful process.
* Thought provoking, knowledge building learning environments with empowered learners, teachers to achieve a constructivist, child centric learning in every classroom.
* Building a community, network promoting innovative, reflective practices in education.

**ECE**

NE’s ECE program developed over a period of past 10-12 years is thematic and child centric program. The program has evolved on the NE philosophy of learning by doing and hands on, activity based learning methods. This is primarily based on our learning experiences with the preschool children, with a focus on children’s all-round development — physical, mental, social and emotional, and school readiness.

**Philosophy:** Holistic development of the child

**Pedagogy:** Concrete to Abstract/ Known to Unknown

**Component of the program:**

**Survey Visit:** The survey visit to understand the requirement.

**Intensive Training:** In this training we give overall program idea to the teachers. And try to

prepare them to adopt this program in her class.

In this training will cover following topics in 9 days based on school requirement. Following content will cover in the workshop:

* How children learn
* How can teachers develop better Communication skills
* How to create an open and free environment in the class?
* Importance of Free play
* Importance of theme based Education
* Initial days in class
* Importance of preparation.
* Appropriate Teaching leaning material development
* Usage of Local materials
* Language Development
* Story and Song
* Logico-math
* Creativity
* Games
* Sensory Development

**Facilitation visit**: After the workshop teacher require support in day to teaching. She face different type of problem during the teaching in class on activity based. Tosupport them Navnirmiti Eduquality’s facilitator visit to the teacher class and try to solve their routine problems on pre-school education.

**Demo Class**: During the workshop all participate are adult so many time teachers have question in mind how we can do it in our class with kids and many point can’t possible to cover during the workshop because participants are adult. For more valuable learning our Resource Person conduct the Demo Session with the children in teacher’s presence.

**Resource Materials:**

* Yearly curriculum calendar
* Teacher handbook
* Worksheet for children
* Teaching Learning Materials

**Our Current & Past Projects:**

**ICDS Anganwadis**

* 268 Anganwadis of Shahpur, Maharashtra
* 78 Anganwdi of Kinnaur, Himachal Pradesh
* Workshop and Material supply in 283 Anganwadi of Dolkhamb, Maharashtra
* Workshop and Material supply in 98 Angnawadi of Kalmeshwar, Maharashtra
* Workshop and Material supply in 80 Anganwadi of Barmer, Rajeshthan

**Model Anganwadis:**

* 15 Model Anganwadis at Shahpur,
* 18 Model Anganwadis at Nagpur
* 12 Model Anganwadis at Kinnaur
* 2 Model ECE classroom at JVM, Nagpur

**Math**

Math is one of the most important subjects that find its use in everyday life, making it a life skill. It also teaches logical, rational thinking and instils problem solving abilities that go a long way in the overall development and growth of children. Yet, this important subject is one that is most feared and hated by children.

A very important discovery made on the subject of mathematics, and the reason most children struggle with it, was that the difficulty is essentially linguistic and not conceptual. Not many realize that learning mathematics is like learning a new language. Children have to be introduced to it in a language they understand best. The conventional classroom way of teaching the alphanumeric language of mathematics is difficult and uninteresting at the same time, as a result of which children develop a dislike and fear of the subject.

A need clearly exists for alternate, unconventional and innovative ways that simplify the subject, so that children grasp and understand math concepts easily and a liking, or even love for mathematics. With a strong foundation, children will be better equipped to take on the subject as it becomes more complex.

To fulfil the above objective, Navnirmiti has developed a comprehensive approach to teach the school mathematics through ways that make learning of mathematics an interesting and enjoyable process.

**Quality mathematics education**

Basic education must, as stressed earlier, provide quality mathematics education for all pupils. These two goals – provision of quality mathematics education and provision of mathematics education for all pupils – are often perceived as irreconcilable.

The challenge of changes in teaching practices it is designed as formal teaching, centred on learning techniques and memorizing rules whose rationale is not evident to the pupils;

* Pupils do not know which needs are met by the mathematics topics introduced or how they are linked to known concepts;
* Links to the real world are weak, generally too artificial to be convincing and applications are stereotypical;
* There are few experimental practices and modeling activities;
* Technology is quite rarely used in a relevant manner;
* Pupils have little autonomy in their mathematical work and often merely reproduce activities

**NE’s Method of Math Learning :**

**Math / understanding**

* Learning Outcomes in all the Children
* Teacher Training and capacity building
* Resource Teacher Development
* Learning by hands on kits in the classroom
* Conceptual development and pedagogical understanding of teachers

**Training Programmes**

NE has covered approximately 50,000 teachers through the workshop all over india. Our aim is to spread it to all the teachers and the individuals who are passionate about revolutionising the math education. This program gives an in depth understanding of the concepts through hands on activities, games and correlating the practical knowledge to the algorithms given in the text books.

### **Objectives of the Workshop:**

1. Deepen the conceptual clarity of the teacher.
2. Demonstrate ‘Teaching by a child-centred approach’, through building an environment conducive for learning.
3. Develop necessary skills of the teacher to facilitate ‘do and discover’ approach in the classroom.
4. Make the teachers more confident and enhance their liking for the subject with the help of interesting and successful teaching-learning practices and insightful discussions.
5. Equip teachers with effective class-room implementable strategies.

Demonstrate efficient delivery methodologies to develop reflective thinking and problem solving skills of student.

**Workshops:**

1. **Product based demo**
2. **Introductory / Orientation workshop (1 day)**: The workshop covers basic, foundational, central, key concepts of the school curriculum. It is an introductory workshop to ‘Learning by Understanding the Active Mathematics’. It gives hands on experience of the activity-based, do & discovers method of teaching and learning. Participants explore creative ways of math learning with the innovative math kit developed by us.

However many participants/schools who have attended the Introductory workshop also register and participate for the sheer joy and fun of learning math more intensively.

1. **Intensive Primary Math Workshops: ( 3 – 5 days)**

This is a 3 - 5 day’s workshop depending upon the range of topics and concepts to be covered. The workshop covers the topics more intensively and with deeper conceptual understanding / knowledge about the subject

1. **Concept Workshops**

This workshop is mainly forUpper Primary & Secondary concepts, as the topics are quiet vast and need to cover in depth

Ex: Fractions, Integers, algebra …….

**For more information on workshops, mail us**

***School Intensive Math program*** – It is an outcome oriented school engagement activity. As a result of this engagement an increased performance in the math learning in the primary classes is aimed at and achieved. One of its goals of school Math Program is to achieve incremental, quantifiable learning outcomes in the learning and progress, conceptual understanding, confidence and ability to relate classroom learning and real life, developed thinking, inquiry skills

***Program objective***

1. Promote Learning by understanding and only understanding in all ways of learning
2. Increasing in the quality of math teaching, learning
3. Use of innovative, hands on, learning by doing pedagogy in the classroom teaching
4. Improvement in the learning outcomes in all the children
5. Capacity development of teachers at all levels to address the challenges of math teaching and learning
6. Develop a sustainable school resource community of math teachers
7. Develop liking for the subject with their concrete learning experiences

**Program Key components**

1. Teacher Training –
   1. Concepts
   2. Pedagogy
   3. Methodology
   4. Assessments,
   5. Bridging learning gaps
2. Teaching learning material
3. Worksheets
4. Assessments
5. Demo Class
6. Class Observation
7. Capacity building of resources
8. Summer Camp/ Math Fair

Click the link below for our annual report of SIMP

**Math Fairs:**

Our journey of math fairs started in 2012, reaching out to number of schools and common masses, year by year

Math Fair is a collaborative and cooperative way of learning math by doing and understanding by the school community as a whole. It gives to the students & teachers, opportunities to problem solve; discover, learn by doing. It is essentially a space designed for students to learn mathematics in interesting and joyful way through various creative and innovative ideas, games and activities.

Here the children get engaged in various math related activities in ways that are fun, inspiring and a quiet different approach from the way the subject is typically taught in the classroom. The children are encouraged to do and discover things on their own which goes a long way in developing their math competencies.

**Key objectives of the Math Fair:**

**Change Perception of Math Learning**

* Remove fear and develop liking of mathematics
* Real life based, doing and discovering activities, hands on methods
* Learning by understanding and No to rote-learning
* Promote Problem solving, Logical reasoning, Critical thinking

**Constructivist Classroom**

* Encourage child centric teaching learning
* Discover, display and apply innovative pedagogy and approaches
* Collaborative learning among teachers, teachers and students

**Expected Out Comes of the Math Fair**

# School as a community of learners

* Enthusiastic participation, increase in the confidence level of children
* To develop student – teacher bonding
* Problem solving through challenges and better understanding of the mathematical concepts
* Close interaction between teachers from different schools
* Development of active learning and thinking space

**Teacher as innovator**

* Content development by the teachers and facilitators together
* Models and teaching learning material making experience
* Opportunity, exposure to innovativeness in world of mathematics
* Transforming, encouraging teacher as math communicator

**Beneficiary**

Schools, communities, common mass

**Current & Future fairs:**

2018 – St. Andrews School, vasco Goa

2019 – 13 TMC schools – Shimla Park, Mumbra

**Our Past Fairs:**

2018-

2016-

2015-

2014-

2013-

2012 -

**Future Projects:**

2018- St. Andrews school, Vasco, Goa

2019- Mumbra (13 TMC Schools)

**Math Lab**

A “Math Lab” essentially is a space designed for students to learn mathematics by activities and hands on experience. Navnirmiti’s Math Lab provides a wide variety of materials and toys to play with, and learn mathematical concepts. Children get engaged in various math related activities in ways that are fun, inspiring and a **far cry** from the way the subject is typically taught in the classroom. The children are encouraged to do and discover things on their own which goes a long way in developing their math competencies.

# Aims and objectives

* Every child should self-construct the knowledge.
* Math should be reality based, relevant to every child.
* Experiential Math learning allows children make meaning.
* Every child should develop a liking for the subject of mathematics.
* Children should overcome their fear of maths.
* Enhance and develop logical and objective thinking abilities.
* Learning by doing, through “Do and discover” methods.
* Learning by understanding, and only by understanding.

# NE’s Math Lab

* + Design and set up an Active math lab.
  + Train teachers and schools in the use of an Active Math lab.
  + Conduct Math activity sessions with children and teachers.
  + Upgrade the math lab on an ongoing basis.

**Structure**

Navnirmiti’s Math Lab would have well defined sections for primary, upper primary and secondary sections.

* The primary section would comprise material useful in understanding basic number concepts, basic number operations like addition, subtraction, multiplication, division, basic measurement, fractions.
* This section would incorporate all of Navnirmiti’s innovative tools exclusively designed with focus on solving the problems that come across while learning these concepts.
* For the upper primary, necessary tools to introduce geometry and algebra along with materials for understanding measurement, volume would be available for the students to experiment with.
* The secondary section would focus on theorems, algebraic expressions, solid geometry and other geometrical and special problems.

# Highlights of NE’s Math Lab

## Active Math

Every Math Lab class is actually a math class with a difference being that the students learn the mathematical concepts in a manner that is fun and far from the typical classroom methods of textbooks.

## Hands On

In a Math Lab, there is no scope for boredom for students as they have access to a wide variety of materials to play with, experiment, and get involved with many exciting activities like games, puzzles etc. to keep them occupied.

## Many ways of learning, seeing and doing Math

The “thing symbol” method that the Math Lab incorporates means that the children learn mathematical operations and abstractions like addition and multiplication in a language that is familiar to them, before they get into the alphanumerical language.

## Constructing self-knowledge

In a Math Lab, students are encouraged to “do and discover” things on their own. This approach ensures that children are better able to grasp the concepts properly which in turn builds their self-confidence.

## Making meaning and understanding

Since the children learn the mathematical concepts in the things-language way with its real life connections, children find more meaning in their learning and are better placed to apply the learning in their daily life.

## Group work

Group learning is another significant feature of the Math Lab, where the children are encouraged to interact and co-operate with each other, which speeds up the learning process and at the same time help build their personality.

Another aspect of the Math Lab is that it provides a different and a refreshing environment for the teachers too, as they get acquainted with innovative ways of teaching mathematics.

**Science**

Navnirmiti EduQuality works with the ideology where Learning by doing and discovery is the key. We intend to popularize Science by developing critical thinking and building Scientific Temperament. The interventions focus on enhancing the significance of Science for the children and inculcating the learning in their day to day activity.

**Student Enrichment Program**

* Student enrichment program gives the students an exposure to math and science in a cumulative way in combination with creativity.
* Student enrichment programmes are housed outside traditional school settings to offer students from traditionally under‐resourced schools, valuable opportunities to access authentic scientific tools and practices and also a practical experience of the concepts.

**Aim:**

* To create a child friendly, scientific environment in the school & the society

**Objective**

* Out of chalk and board system – Hands-on experience
* To get the fear of math & science out of children
* To make the concepts more fun and play
* Generate curiosity and holistic development of children
* To make children work collaboratively

**Past & current Projects:**

2018: Durgadevi School (BMC)

**Summer Camp**

**A step towards multiple intelligence concept**

Summer camps are mainly to brush up the creativity of the students and also to improve their critical-thinking skills through arts and crafts

**Objectives:**

* To give children an opportunity to learn skills they do not normally get.
* Exposure to real-life experiences tied together with dramatics, dance, nature, creativity, art, or science and so on
* Stimulate mental, physical and behavioral growth among children.

In the past 11 years we have been conducting summer camps for children from the Municipal schools. This began with including 10 underprivileged children free of cost in the paid camp organized for children from the well to do backgrounds.

This is inspired by past several years’ experience and enthusiastic participation of children in large numbers. We have an excellent team of resource people to conduct these activities.