Computer Masti
Computer in a typical school - India

A Rural School
- Lack of Computer Infra.
- Lack of Skilled Computer Teacher
- Poor Content
- No standard curriculum

An Urban School
- Basic Infrastructure
- Teachers
- Lack of standardized curriculum
- Dry Content
- Lack of Innovation in teaching

Poor Computer Education

Apprehensive in use of ICT in life
Technology - Part of our daily Life

- Phone Calls
- e-Mails
- Banks
- ATM
- Online payment
- E-books
- Videos
- Animation
Kids Of The Future

- Know the merits and demerits of technology
- Use technology for their own growth and learning
- At ease with use of technology
THE GAP
The Gap - India and Computers

% of schools having computers in urban areas

% of schools having computers in rural areas

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<th>%</th>
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Source:

The Gap - At School Level

Play for private

At 75,000, 7% of these schools are private - yet 40% of the students are enrolled.

Total no. of schools 1,025,000

Private: 7%

Public: 93%

Total no. of students enrolled 219m

Private: 40%

Public: 60%

India has 18,000 higher education institutes - 77% of them are private.

Total no. of Higher Education Institutes 18,000

Private: 77%

Public: 23%
Lack in Current Mechanism

Computer Education - Not Holistic

- Content-Dry
- Curriculum-Not Streamlined
- Delivery-Mechanical
- Focus only on Skill Building
Prof. Sridhar Iyer was invited on academic council of SSRVM in 2006

Two years of Research at IIT Bombay on WHAT, WHY and HOW of teaching computers

Multimedia aided computer education

Planned syllabus for classes 1 to 8

Story format teaching for primary classes

Learning the MASTI way
CM Philosophy

- Information
- Concept
- Attitude
- Imagination
- Freedom
Implementation framework of CM

- **TOPIC**
  - **WHAT?**

- **REASON**
  - **WHY?**

- **PLAN**
  - **HOW?**
Aspects Addressed

3 aspects addressed

**CONCEPT**
- Concept useful in many areas
- Step wise thinking
- Also specific computer usage

**USAGE SKILL**
- Developing hands on for hardware/software/languages

**SOCIAL ASPECT**
- Ethical issues
- Security Related issues
- Internet Usage
positive attitude towards computers, Internet and the information process
appreciate and enjoy the process of enquiry, so that students learn to learn
CM Design

1. Emphasize on concepts and not merely skills
2. FOSS applications - *Edubuntu*, *GCompris*, *ChildsPlay*, *Tux Math*
3. Supplement Learning in other subject
4. Encourage Collaborative learning (through group activities)
5. Provide pointer to teacher about teaching methodology
6. Books are released under *Creative Commons* license, freely

Learn Computers the Masti way...!
Goal: 1- Concept not merely skill

Files are used to store information, pictures, etc.

Folders help us by:
1. Allowing us to keep related files together.
2. Making it easy to locate important files quickly.

Creating a folder

1. Move the mouse pointer to an empty space on the desktop.
2. Right click (click once on the right button of the mouse).
3. Select the option ‘Create folder’.
4. Enter a name for the folder.
Goal: 2- Use FOSS- Learn/Design through games

GCompris

Tux Paint

GCompris
Use FOSS - Programming through games
Goal 3: Supplement learning in other subject

Learn Words

Learn Maths

Goal 4: Collaborative learning

Act out as Input/Output Devices: Have a fancy dress show where different students act as the different inputs required for growing a plant. Student showing input can be sun, water/clouds, soil and so on. Some students act as leaves, flowers and fruits to show the output.
Goal 5: Provide Guidelines to Teachers

Teacher's Corner

• Begin the lesson by discussing the concept of machines with students.

• Introduce the computer as a versatile machine that can be used for many things. Here, involve the children in a discussion about the places where they have seen a computer (home, airport, railway station, bank, school, movie theater) and how it can help people perform various tasks in those places.

• Mention other interesting uses that children can identify with – for example, computers are used in the making of cartoon films, they are used in designing various things such as toys, books, buildings, etc.

• Arouse their curiosity by asking whether they would like to use computers. Demonstrate some simple applications of computers such as listening to music, watching video clips, drawing a picture, playing games, doing sums, writing, etc.

Further Reading:
http://www.howstuffworks.com/
http://library.thinkquest.org/5862/
In addition...

Preface tabulates the Skills, Concepts and Value Reinforced

This book is meant to be used for teaching the use of computers to children in the First standard, in a way that is mostly fun (as indicated by the “Masti” in the title). It is designed in such a way that it can be covered comfortably in one year, with one class (30 to 45 minutes) per week. It has evolved from the NCERT framework and is appropriate for ICSE/CBSE schools in India. A schedule of topics by week is given below.

Interactivity is the key to success with these lessons. In the class, ask the students questions, and let many students answer each question. In the computer lab, if they are doing activities in groups, ensure that they switch “drivers” frequently, so that each student gets to do a fair amount of the activities.
In addition...

Exercises and Ergonomic Issues Addressed

1. Start
2.
3.
4.

- If you are not typing or using the mouse, relax your hands in your lap.
Besides...

Animal figures included as primary school kids are able to identify with the animals.

Sonu and Monu, the two baby kangaroos are lost. Sonu can reach his mother following the path by hopping on the input devices of a computer. Monu can reach his mother by hopping on the output devices. Please help them to reach their mothers, by identifying the input and output devices.

Meetu monkey loves bananas. But the banana tree is on the island across the river. Help her reach the tree by marking the seven stones that have the names of items related to a computer.
Salman is making chapattis. Can a computer be used to make chapattis?
In addition...

Secular character of the book: Characters from diverse religions

Kartar

Amina

Jeet
Aim: Specifies what is to be taught in the lesson

Content: Includes concepts and skills. In the form of story

Outcome: Matrice to be used for testing whether the children have actually acquired the concepts and skills covered in that particular lesson

Worksheet: Dual purpose A) Reinforce memory B) Validate whether the lesson outcomes have been met

Activity: A) Provide the children with the skills to use the various applications such as GCompris, Scratch

Explore: Students to try out advanced activities for the lesson

Further Read: Links to resources to further the knowledge.

Teacher's Corner: Insights on what should be done in the class and what should be avoided

T Corner: Insights on what should be done in the class and what should be avoided
CM- Lesson Framework

Storyboard format
- Content woven around child characters
- Interesting, absorbing and intriguing

Adopts a constructivist pedagogical approach
- Encourages the characters to keep asking questions
- Encourages to explore on their own.

Example (from Level 2):

Jyoti: The file is inside the folder! I can see the file when I open the folder with a double click.

Tejas: This is good. Can I move my folder to a different position on the desktop?

Moz: Yes. You can rearrange the objects on the desktop. Use the same method of drag and drop with the mouse.
CM Advantage

- IIT Bombay Researched
  - Quality, Research
  - Streamlined syllabi across 1-12

- Affordable
  - Based on FOSS
  - Low Cost because no proprietary

- Fun
  - Story Format with Illustration
  - Interactive games

- Not only computers
  - Teaches other subjects
  - Oscar
Model of Delivery

CM
Basic
CM +
CM ++

Books + Training
Teacher
Lab Setup
CM- Not Just Books

- Multimedia
- Games
- Interactive
- Story Format
- Oscar
Project OSCAR
Open Source Courseware Animations Repository

Repositories of web-based animations
Useful for distance education
Promotes independent learning
Aids in teaching other subjects

Concave Mirror
Object
Image
F
P
Translation of CM

• A number of individuals have volunteered to translate the content into Marathi, Kannada and other languages.

• We have also received requests from European countries to translate and use the CM content.

Creation of i-book
CONTACT US

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Detailed Syllabus: http://www.cse.jitb.ac.in/~sri/ssrvm/
Thank You