ComputerMasti

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

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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
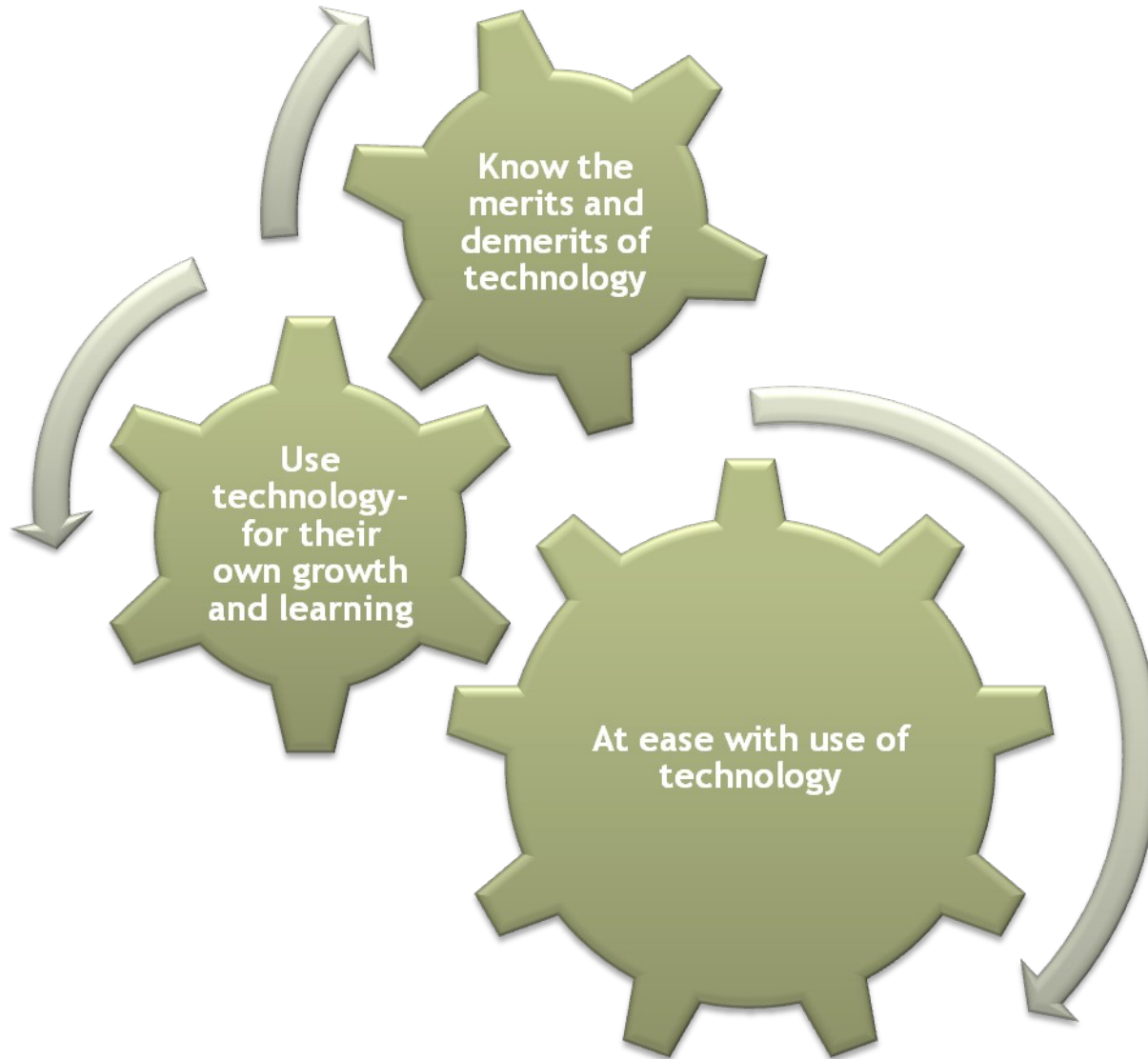
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THE GAP

The Gap - India and Computers

% of schools having computers in urban areas

% of schools having computers in rural areas

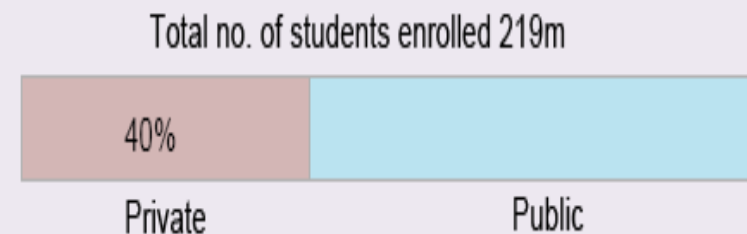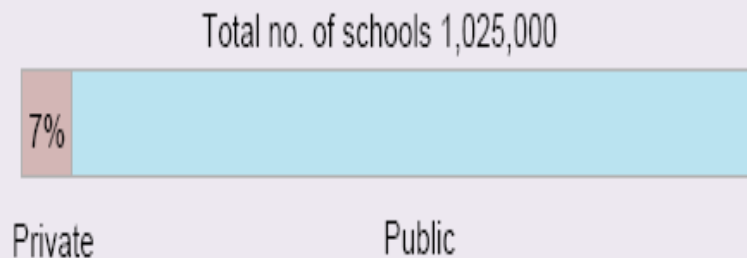|	%
	Less than 5
	5-10
	10-20
	20-40
	40-60

Source:

Mehta, A. (2005). Elementary education in rural areas: Analytic tables. Where do we stand? NIEPA
Mehta, A. (2005). Elementary education in urban areas: Analytic tables. Where do we stand? NIEPA

The Gap - At School Level

Play for private

Total no. of schools 1,025,000

7%

Private   Public

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

Total no. of students enrolled 219m

40%

Private   Public

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

Total no. of Higher Education Instututes 18,000

77%

Private   Public
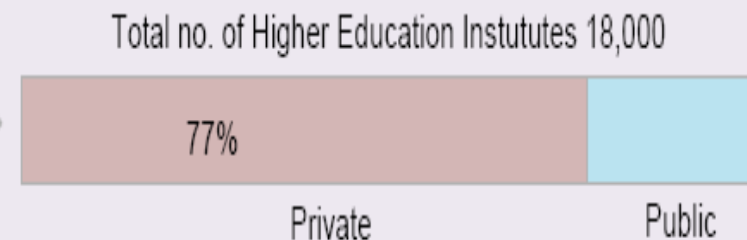
Lack in Current Mechanism

Computer Education- Not Holistic

Content- Dry	Curriculum- Not Streamlined	Delivery- Mechanical	Focus only on Skill Building

COMPUTER MASTI

Computer Masti

Beginning

Philosophy

Research

Not Just Books

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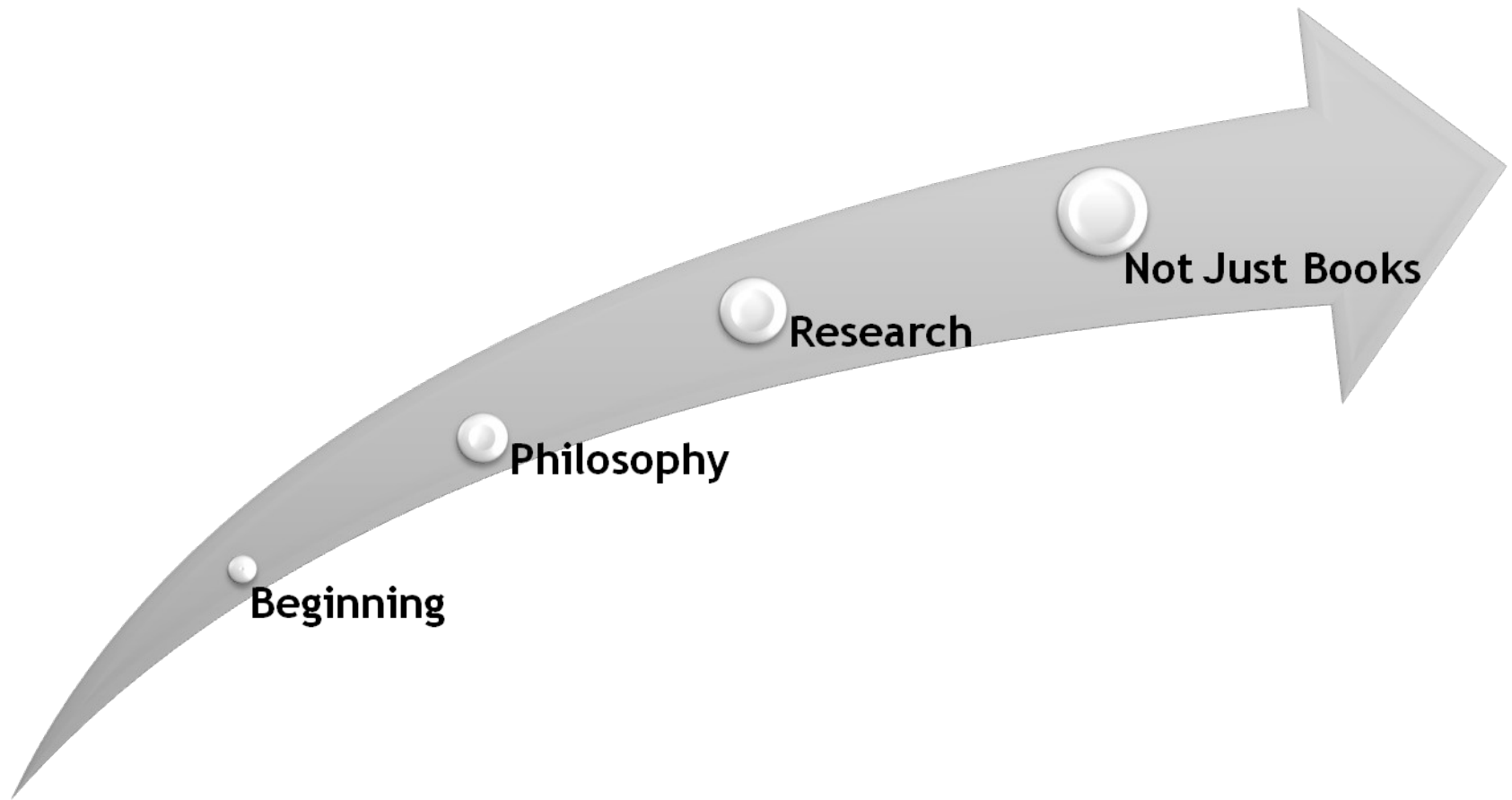
CM Beginning

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

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CM Philosophy

Information

Concept

Attitude

Imagination

Freedom

Implementation framework of CM

TOPIC	REASON	PLAN
• WHAT?	• WHY?	• HOW?

Aspects Addressed

3 aspects addressed

CONCEPT

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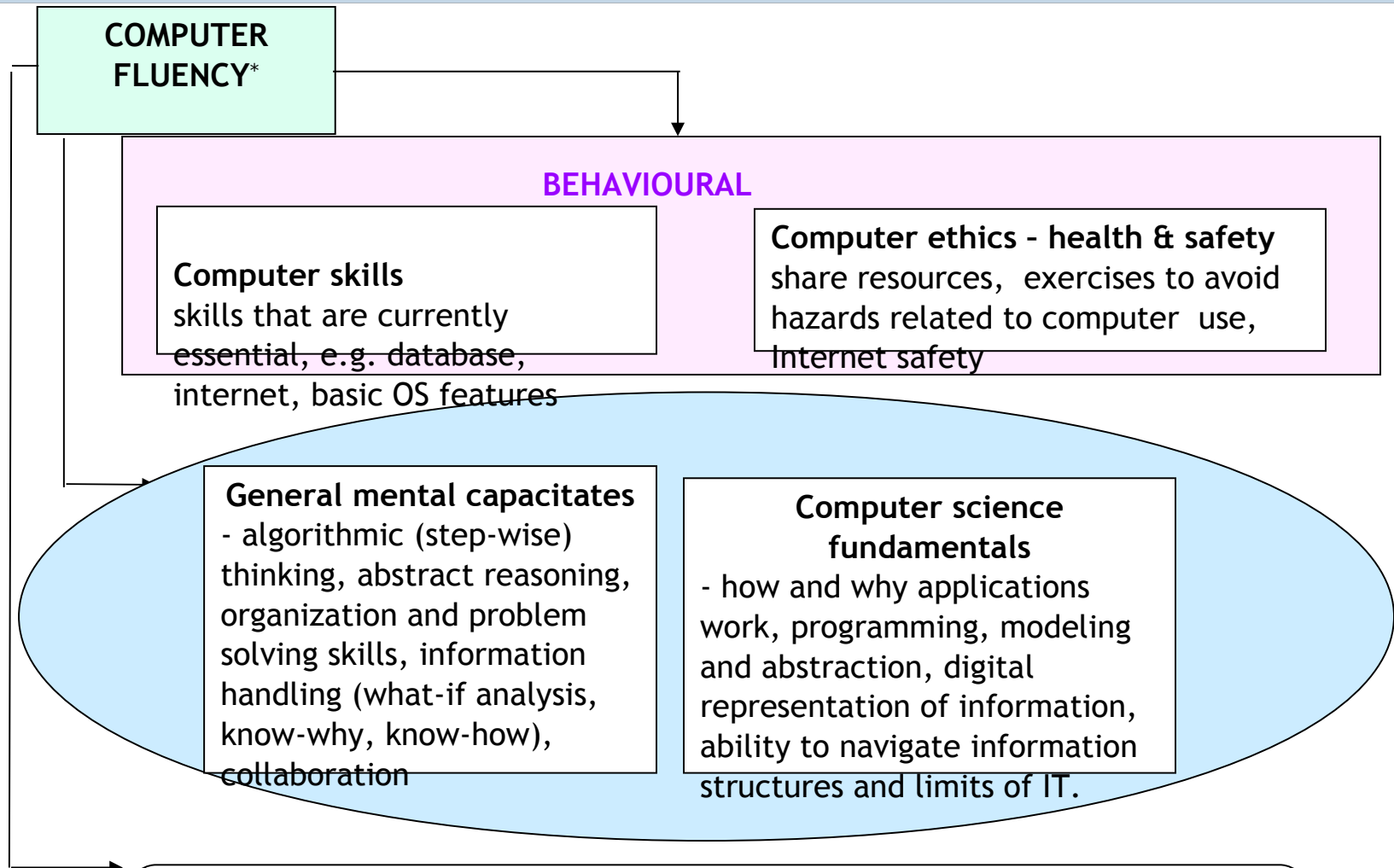- Also specific computer usage

USAGE SKILL

- Developing hands on for hardware/ software/ languages

SOCIAL ASPECT

- Ethical issues
- Security Related issues
- Internet Usage

Framework for Curriculum

COMPUTER FLUENCY[*]

BEHAVIOURAL

Computer skills
skills that are currently essential, e.g. database, internet, basic OS features

Computer ethics – health & safety
share resources, exercises to avoid hazards related to computer use, Internet safety

General mental capacitates
- algorithmic (step-wise) thinking, abstract reasoning, organization and problem solving skills, information handling (what-if analysis, know-why, know-how), collaboration

Computer science fundamentals
- how and why applications work, programming, modeling and abstraction, digital representation of information, ability to navigate information structures and limits of IT.

positive attitude towards computers, Internet and the information process appreciate and enjoy the process of enquiry, so that students learn to learn

earn Computers the Masti way...!

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

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Goal: 1- Concept not merely skill

CONCEPTS

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.

SKILL

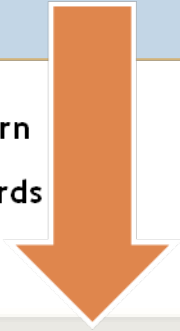# Goal: 2- Use FOSS- Learn/Design through games
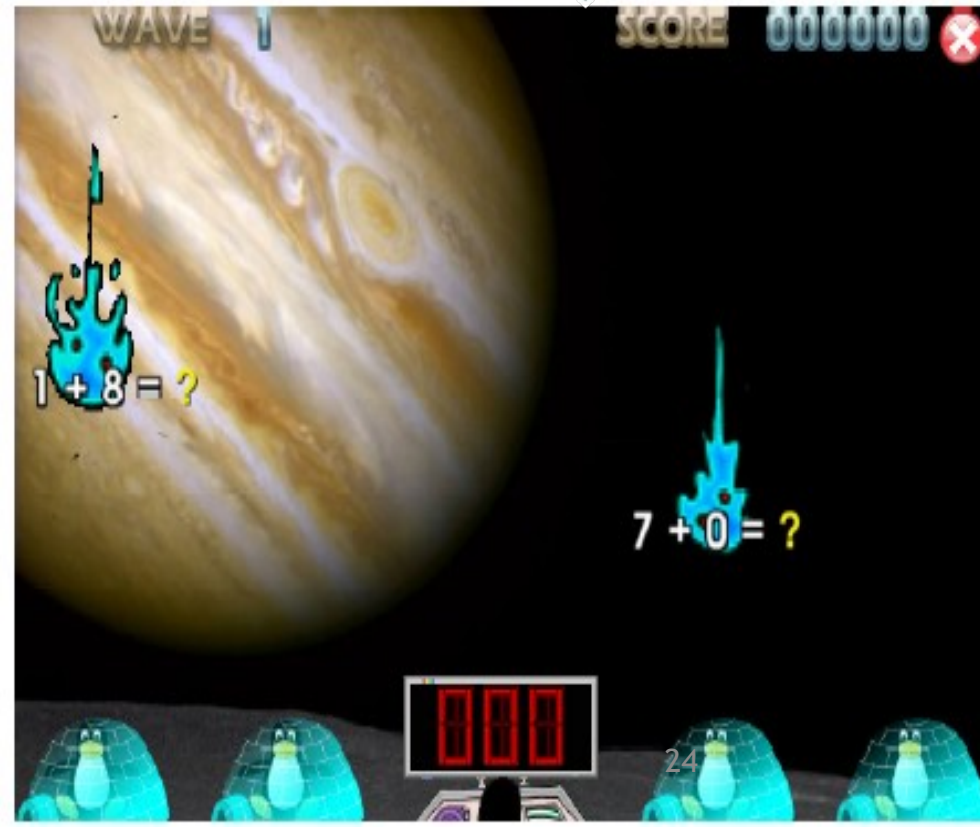

GCompris

GCompris

Tux Paint

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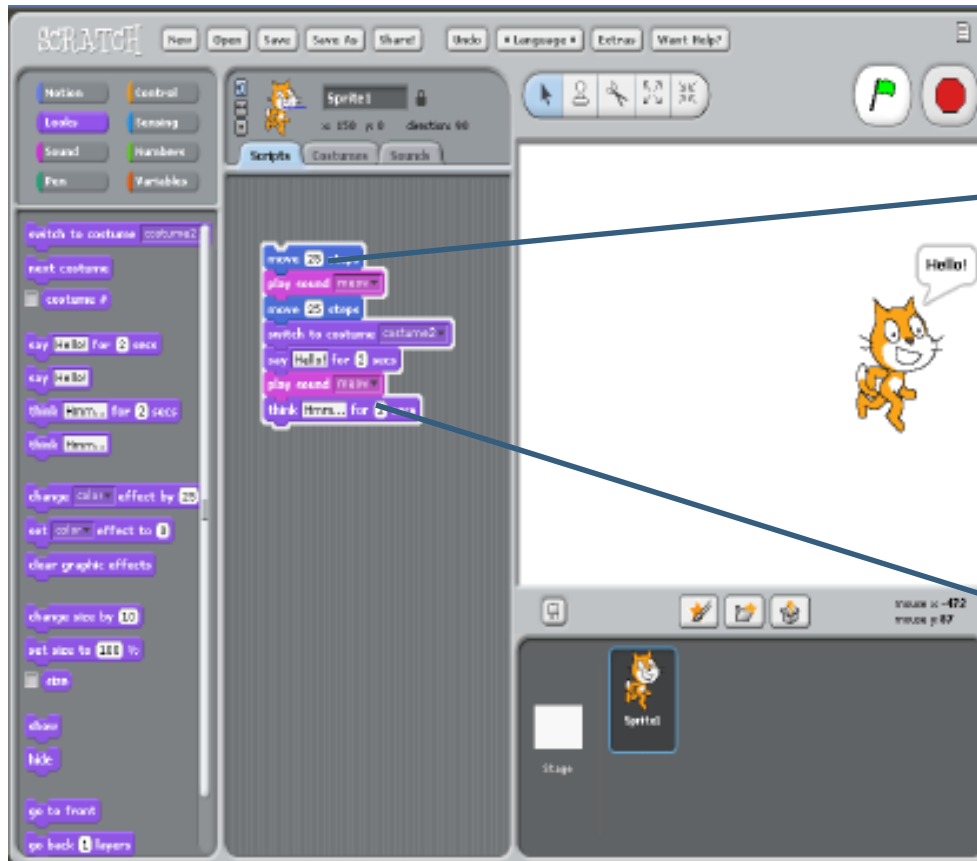
Goal 3: Supplement learning in other subject

Learn Words

Learn Maths

a

o

i

6/9

b_nana

WAVE 1   SCORE 000000

1 + 8 = ?

7 + 0 = ?

b. Missing Letters:
Fill in the missing letters.

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 1.1

• 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
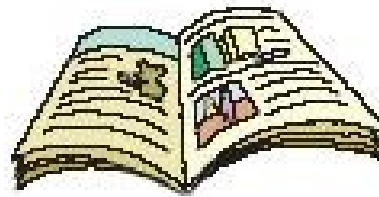
This book is meant to be used for teaching the use of computers to children in the First standard, in a way that is mostly fun (as indicated by the "Masti" in the title). It is designed in such a way that it can be covered comfortably in one year, with one class (30 to 45 minutes) per week. It has evolved 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…

1 Start   2   3   4
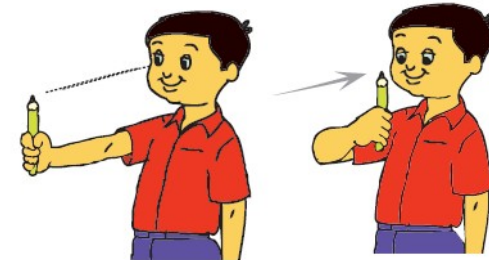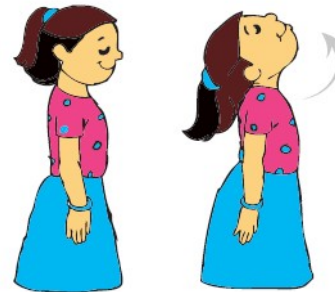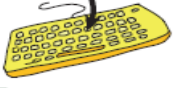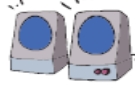
- If you are not typing or using the mouse, relax your hands in your lap.

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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.

(Input / Output Device)	(Input / Output Device)
(Input / Output Device)	(Input / Output Device)
(Input / Output Device)	(Input / Output Device)

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

Blackbaord
Save
Space bar
Pencil
Keyboard
Rope
Monitor
ICU
Door
Mouse
CPU
Printer

Besides…

Illustrations - sensitive to - Gender & Body Image Issues

Salman is making chapattis. Can a computer be used to make chapattis?

In addition...

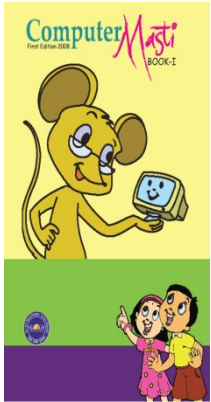**Secular character of the book: Characters from diverse religions**

Kartar

Amina

Jeet

CM- Structure of Lesson

Aim: Specifies what is to be taught in the lesson

A) Keep your chair at proper height.

B) Keep a proper distance from the monitor.

LESSON OUTCOME

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

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

WORKSHEETS 1.1

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

Futher Reading

Teacher's Corner

Explore!

Further Read: Links to resources to further the knowledge.

T.Corner: Insights on what should be done in the class and what should be avoided

Explore: Students to try out advanced activities for the lesson

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

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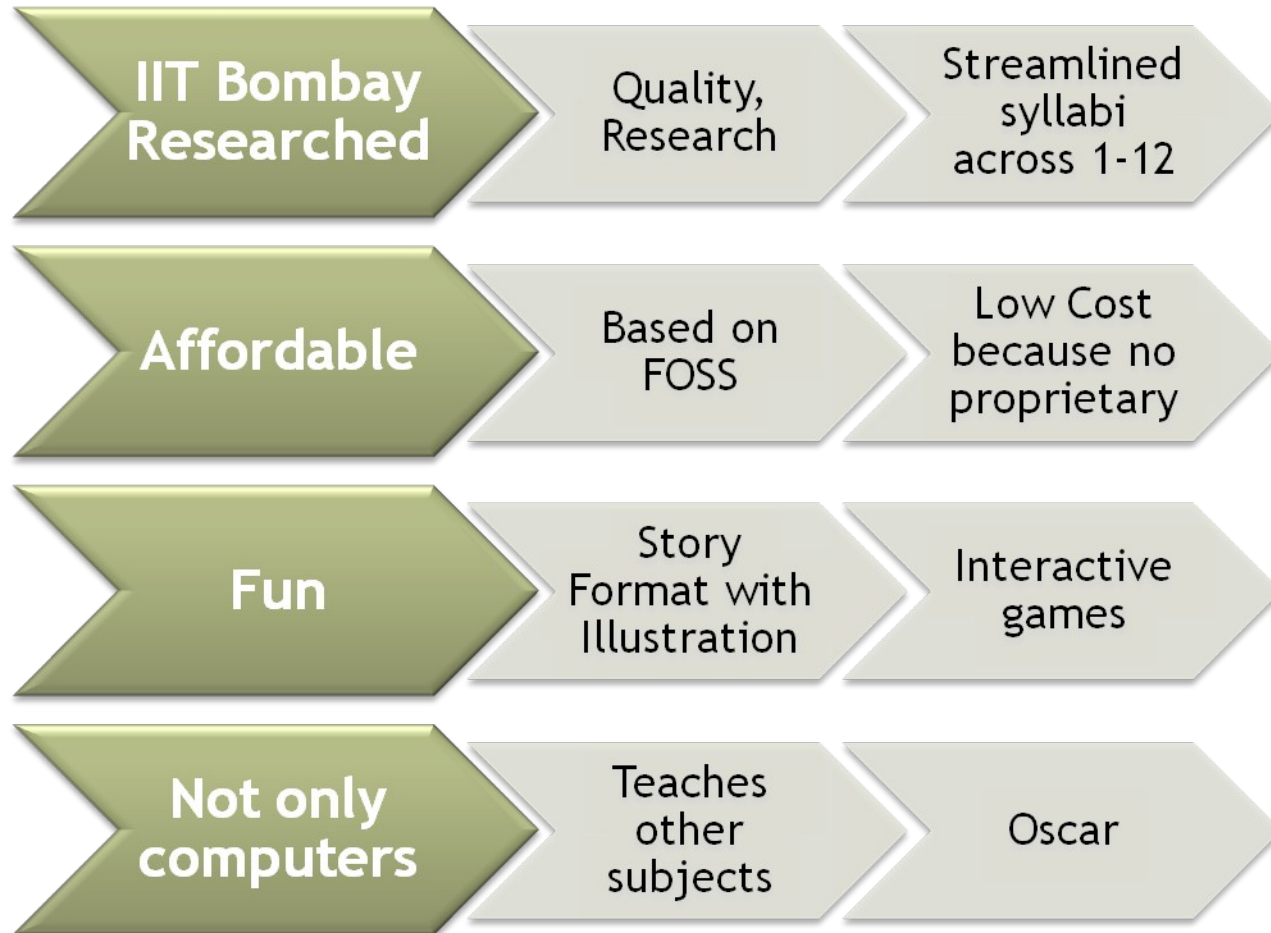
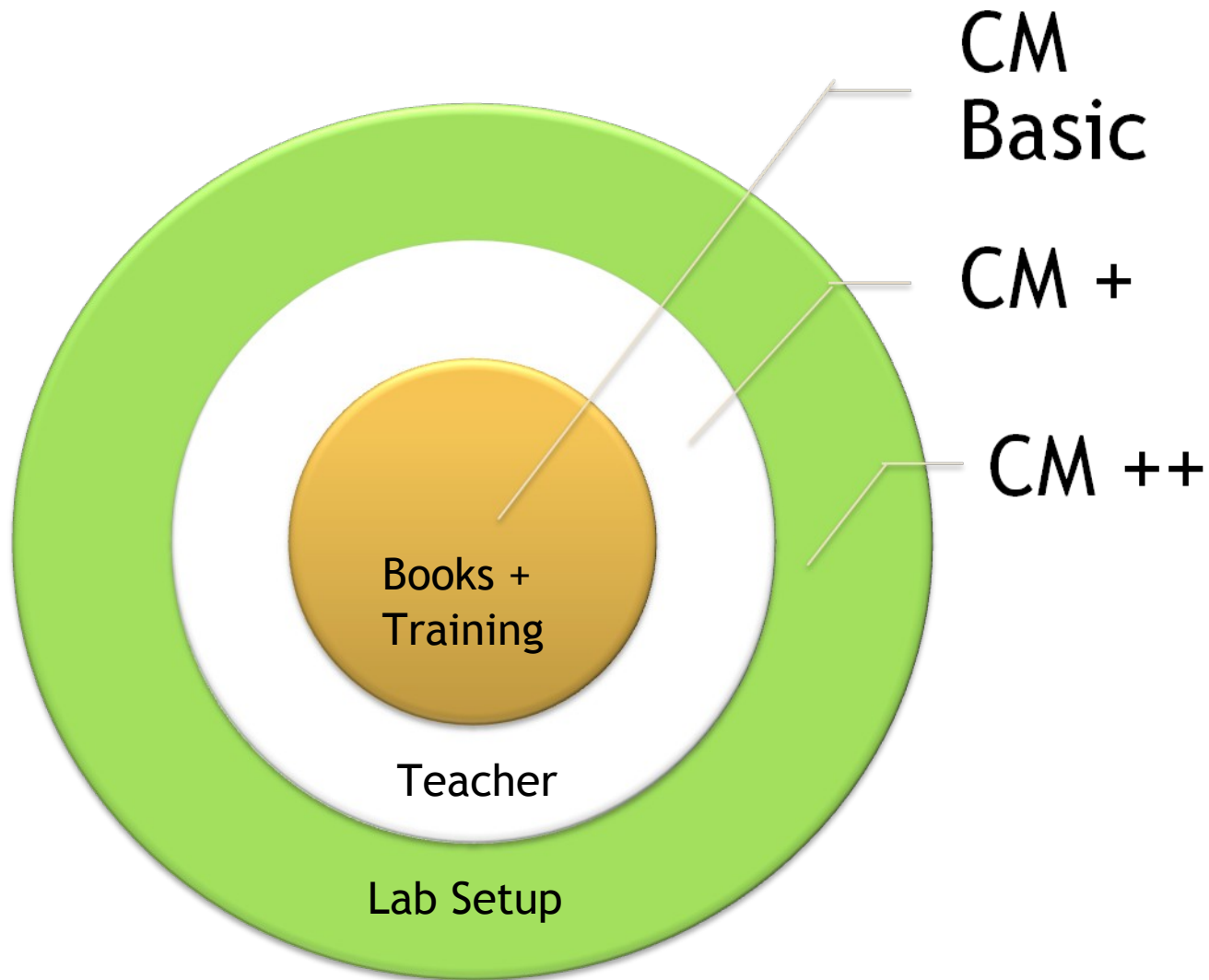Tejas: This is good. Can I move my folder to a different position on the desktop?

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

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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

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Model of Delivery

CM Basic

CM +

CM ++

Books + Training

Teacher

Lab Setup

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CM- Not Just Books
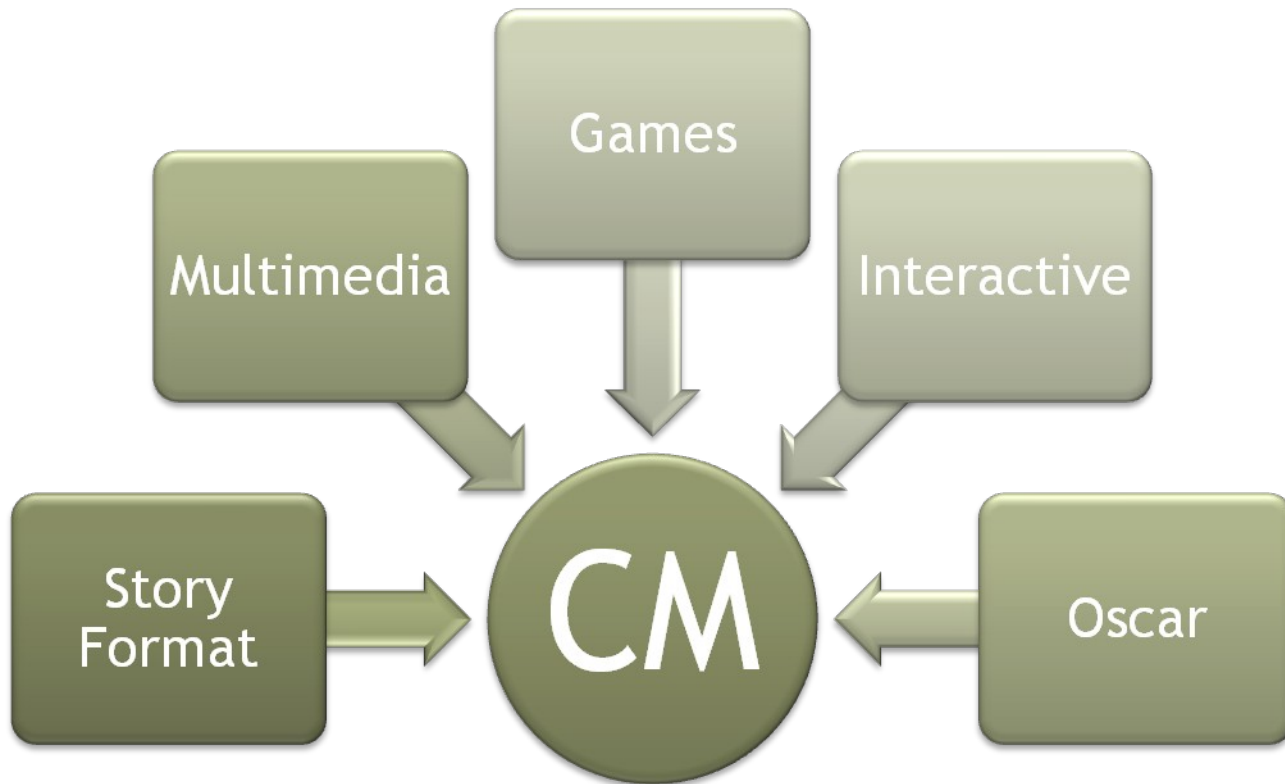
Project OSCAR
Open Source Courseware Animations Repository

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

Concave Mirror

Object

Image

O C F P

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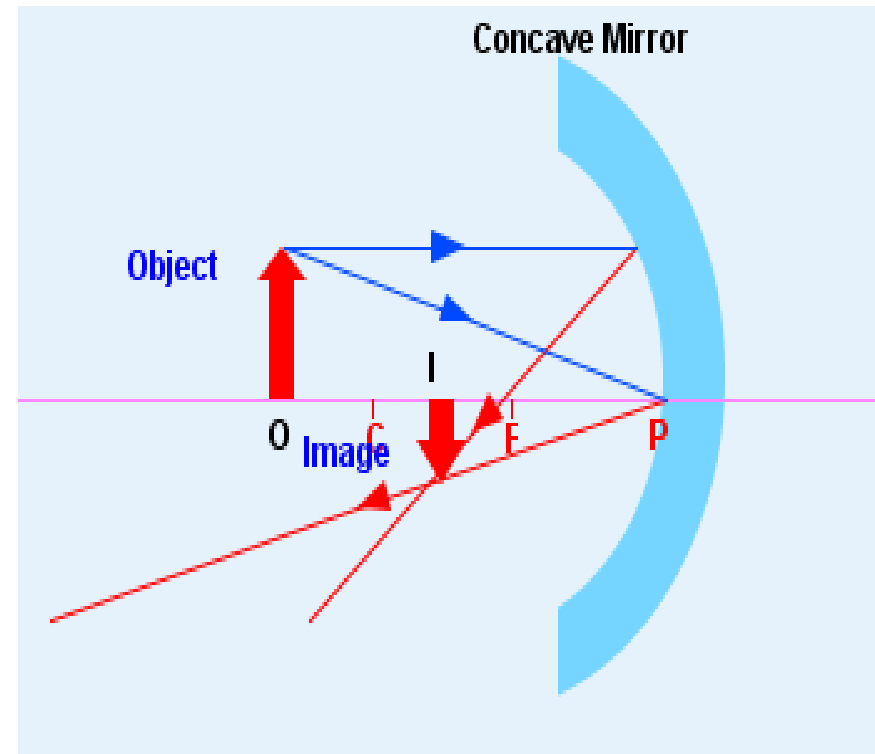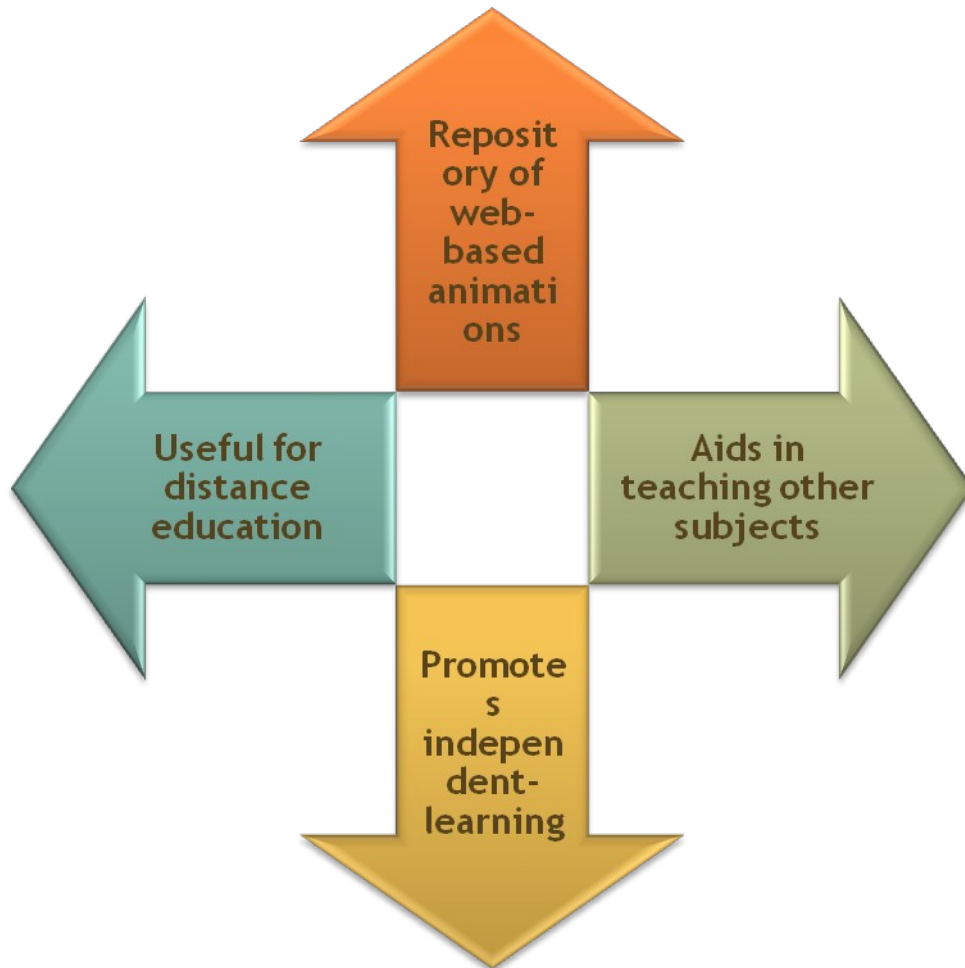
Future Direction

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.iitb.ac.in/~sri/ssrvm/*

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Thank You