Computers in Schools

Sri Sri Ravi Shankar Vidya Mandir (SSRVM)

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SSRVM - Vision

- Inspired by Sri Sri Ravi Shankar
- Stress free education
- Inculcating human values in children
- Nurturing awareness and a questioning mind
- Focus on excellence
- Strong, inspiring teachers as role models
- Act as catalysts for change in society

Introducing computers in schools

Questions:
- What should we do?
  - The world seems to be going in for technology in a big way.
  - When should we introduce computers into the curriculum?
  - What should be the contents and syllabus?
  - How should we go about it?
  - What are the specific options for SSRVM (or our school)?
- We need to address these as general concerns first and understand the possibilities.
- Then we should reflect about it in the light of our school’s emphasis and finally arrive at what SSRVM (or any other school) should do.

Approach

- Awareness —
  - see what exists, what are other people doing.
  - this presentation is a first step.
- Appreciation —
  - do some hands-on usage of technology.
  - reflect upon its implications.
- Adoption —
  - include computers in curriculum appropriately.

Computers in schools

Various conflicting view points exist

- Some teachers and schools, especially in western countries, seem to believe that there should be widespread adoption of computers.
  - An extreme viewpoint is that computers can replace the teacher.
  - Often, this reaction is due to a mindless belief that technology is always “good”.
- Others, especially those who do not have much exposure to technology, seem to believe that there should be only minimum introduction of technology.
  - A extreme viewpoint is an insistence that traditional ways are always “better”.
  - Often, this reaction is from one’s own insecurity.

Our belief

- We should be aware of the capabilities of present-day technology and continuously stay updated.
- We should use the technology carefully, only in places where:
  - it can add real value to the children.
  - it can help teachers explain things better.
  - it can reduce some routine drudgery for the teachers.
- We should not use technology to the point where:
  - it stifles the creativity of the children or the teachers.
  - it makes the teachers too dependent on external support.
  - it distracts us from our main objective.
Examples - 1

• For giving experiences of processes that are too slow.
  – Plant growth: (video clip – plant)
  – Frog life cycle: (video clip – frog)

• For giving experiences of processes that are too fast.
  – Hummingbird flight: (video clip – bird)
  – Wave motion: (video clip – wave)

Examples - 2

• For giving experiences of processes that are too microscopic.
  – Bacteria cell division: (video clip – bacteria)
  – Plant respiration: (video clip – leaves)

• For giving experiences of processes that are too risky.
  – Chemical reactions: (video clip – metals)
  – Fireworks: (video clip – fireworks)

Examples - 3

• For giving experiences that cannot be otherwise given inside a classroom.
  – Pollination: (video clip – pollination)
  – Space exploration: (video clip – space)
  – Water freezing: (video clip – freezing)

• For giving experiences that are:
  – Rare; Costly; Geographically remote.
  – Can you suggest more such examples?

• And, everything need not be only Videos!

Animations - 1

Animations - 2

Animations - 3

• Can you think of some more examples?
  – Elephant and feather falling in vacuum and in air.

• Animations can also be interactive
  – Biology flash demos: ([WaterCycle](#), [Ecosystem](#))
  – Project OSCAR demos: (http://oscar.iitb.ac.in)

• Interactive animations can also be used as laboratory experiments and exercises.
  – Maths; Physics; Chemistry; Biology
  – Chemistry lab demo (Run [Chem-lab](#)).
And that's not all…

• Tablet PC
  – similar to working on paper; for example using ‘paint’.
  – store and archive children's work.

• There is a host of other software
  – Moodle – Learning management system.
  – drupal – Content management system.
  – koha – Library management system.

• Note: A lot of software have license issues
  – We need to take care before distributing to schools.
  – We should prefer the Free and Open Source versions. See catalog.

And then, there is the Internet

• A host of teacher resource websites
  – www.teach-nology.com
  – www.ancharfed-learning.com

• It is like a vast library
  – Searching it is made easy by Google, Yahoo, etc.

• It has redefined the way we do things
  – For example – 1st Std asked to get pictures of houses.
  – Earlier days – Parents store magazines, cut snippets...

Caveats…

• It is only a ‘virtual’ world.
  – We should not substitute a computer for ‘real’ experiences.

• The computer can be highly addictive.
  – Too much of it is detrimental to eyesight and physical development.
  – We should always limit the time, irrespective of whether the child is playing games or using educational software.

• The internet has a lot of sites that are unsuitable, and even harmful for children.
  – Every site is but a few ‘clicks’ away.
  – We need to educate and teach children to identify and keep away from the undesirable elements.

• In any case, keeping children ignorant about computers and Internet, is not an option.

How should we go about introducing computers in our schools?

What is being done elsewhere

• Typical curriculum in other schools in India
  – 5th std – General introduction, folders, etc.
  – 6th std – Word.
  – 7th std – Power-point. Introduction to Internet and Email.
  – 8th std – Excel and other software.
  – 9th std – HTML and even some Java programming.

• No specific syllabus nor textbooks.

• Typical curriculum in schools abroad
  – I still need to complete this study.

Our approach

• We need to keep in mind that, requirements of
  – Indian schools may be different from those of schools abroad.
  – Urban schools may be different from those in rural areas.
  – Children with special needs.

• We need to be clear about what is not appropriate
  – Too much of technology.
  – Information overload for teachers and children.
  – Relying too much on downloaded content. For example, worksheets.
Requirements

- We need to have a plan for
  - Computer usage by children,
    - Not only as part of curriculum but also for learning in other subjects.
    - For example, having virtual labs related to classroom work, esp. Science.
  - Internet usage by children,
    - Searching for information effectively will be an important skill.
    - For example, having projects related to classroom work, esp. History, Geo.
  - Computer and Internet usage by teachers,
    - To stay up-to-date and also enhance their productivity.
    - For example, a wiki for collaborative lesson planning.

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Summary (so far…)

- Our curriculum needs to include:
  - Learning about how to use a computer.
  - Using the computer to learn about other subjects.
  - Learning about how to use the Internet.
  - Using the Internet to learn about other subjects.
- We also need to focus on:
  - Teacher training for hands-on usage of various software.
  - Content development that is aligned with the syllabus.
- next steps
  - reflect upon what content is suitable for which class.

About SSRVM Trust

- 65 Sri Sri Ravi Shankar Vidyamandirs (public schools)
- 30 tribal schools (Sri Sri Vidyamandir) teaching 9,000 children
- 13,000 children in Sri Sri Ravi Shankar Vidyamandirs
- Sri Sri Center for Media Studies
- Sri Sri Ravi Shankar College of Ayurvedic Sciences