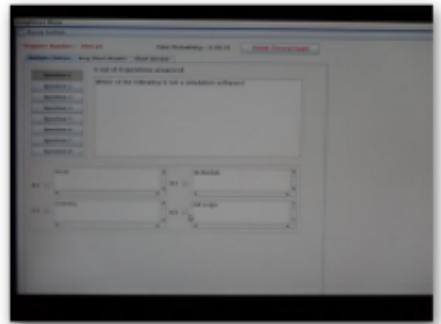
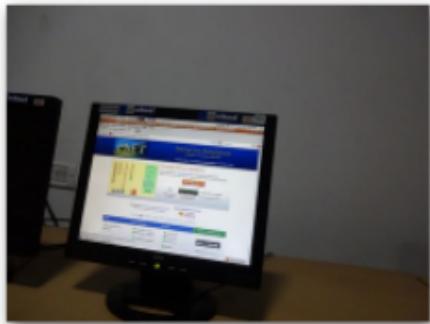


HOW INFORMATION AND COMMUNICATION  
TECHNOLOGY HAS CHANGED THE  
FACE OF SCHOOL EDUCATION - A STUDY OF  
IT@SCHOOL PROJECT



SUBMITTED BY  
SHIVEN SHASHIDHAR

# IT@SCHOOL IN ACTION



# **REPORT ON**

## **HOW ICT HAS CHANGED THE FACE OF SCHOOL EDUCATION - A STUDY OF IT@SCHOOL PROJECT**

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## PREFACE

Information and Communication Technology (ICT) in education refers to teaching and learning the subject with the help of computers, relevant software and hardware, Internet, interactive DVDs etc. The use of these technologies involve a paradigm shift in school education characterized by imparting interactive instructions, collaborative learning, use of multi-disciplinary problem-solving techniques and promoting critical thinking skills among the students.

The 21st century is characterized with the emergence of knowledge-based society wherein ICT plays a pivotal role. Further, the need for getting knowledge in certain academic areas in a real-time environment has become all the more important as compared with the static knowledge provided by text books. Infact, The National Curriculum Framework 2005 (NCF 2005) of the Government of India has highlighted the importance of ICT in school education.

Government of India has announced the decade from 2010-2020 as the ‘Decade of Innovation’. Reasoning and critical thinking skills are necessary for innovation. The foundation of these skills is built at the school-level. As such, it is desirable that affordable ICT tools and techniques should be integrated into classroom instructions right form primary stage so as to enable students develop their requisite skills. Many of the tools, techniques and tutorials are available in Open Domain and accessible on web.

At the Primary and Upper Primary school level, the focus may be on simple interactive methods of learning and can aptly be described as ‘fun to learn’ while at the Secondary-level access to information and trying to compile different views and analyze them so as to enable students to conclude in one’s own way is possible through the methods of ICT. At the Senior Secondary level, when students are exposed to learning through ICT, the process of learning itself becomes highly motivating.

Keeping the above points in mind, this study tries to understand the various issues involved in imparting school education using ICT. ***The study focusses on an innovative project launched by the Govt of Kerala, named it@school - ICT-enabled education.***

## **ACKNOWLEDGEMENT**

I am grateful to Dr. Pournami PN, Assistant Professor, Department of Computer Science, NIT Calicut for giving me the opportunity to undertake this project. Her guidance and insights were invaluable for us to complete our project.

I am also grateful to Ms. Beena Philip, Principal , GVHSS, Nadakkavu and Mr.A.K. Balan , Headmaster, GVHSS, Nadakkavu for sparing thier time and providing us the necessary resources. I am indebted to Mr.Omkaran, ICT coordinator, GVHSS, Nadakkavu for providing us with technical details about ICT@SCHOOL implementation. I am thankful to the teaching staff at GVHSS, Nadakkavu in particular Mr.Chandrashekaran, Class X Social Science teacher and Mr. Muhammed Iqbal , Class X English teacher for providing us valuable feedback.

I would like to acknowledge Ms. Priya, District IT coordinator, Kozhikode and Mr. Paul, Mr. Suresh and Mr. Manoj- IT @ School Master Trainers, Kozhikode and Ms. Jayakala, IT coordinator, GHSS, Pathiripala for briefing us on ICT enabled education in schools.

Finally, I would like to thank the students of GVHSS, Nadakkavu for their cooperation.

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## **I. EXECUTIVE SUMMARY**

This report highlights the existing scenario of school education system and examines the role of ICT in school education: advantages, potential, and challenges.

During our field-study, it was observed that both teachers and students felt that in today's fast changing knowledge society, the necessity of 'staying tuned' and practical application of what is learnt calls for the school education system to be on par with new technologies. They also expressed that the traditional teaching methodologies like large group lecture, student note taking, and paper examinations lack holistic approach and sometimes fail to deliver education which is in sync with the current development.

IT@school - 'ICT-enabled education', launched by the Govt. of Kerala uses diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. It is seen that the project has empowered teachers and students with well researched, high quality, personalised, interactive curriculum digital module through educational technology such as animations, visual aids, simulations, etc.

The IT@school project should now be expanded to cover all the schools in the State and indeed at the national level.

## **II. INTRODUCTION**

School is the first platform where a child is exposed to the world of formal education. It prepares the child for the future role in the society.

Traditional teaching methods such as long group lectures and dictation, rote memorisation often leave the students less attentive and less actively engaged.

In this case study, I examine the implementation of it@school, which is an ICT based education launched by the Govt. of Kerala. Field-visits were taken up in Govt. Vocational Higher Secondary School (GVHSS), Nadakkavu, Kozhikode, Kerala, India.

It has been demonstrated that integrating ICT into education systems can increase the quality of education delivery. According to UNDP(United Nations Development Programme), ‘ICTs are basically information-handling tools- a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information.’ This includes audio-visuals, CDs, multimedia products, broadcast radio and television, etc.

The study revealed that ICT has changed the face of school education and helped knowledge transfer move fast forward.

### **Objectives**

- i) To identify the traditional scenario of school education system.
- ii) To analyse the need for changing the existing scenario.
- iii) To analyse the effect of integrating innovations in ICT in delivering school education.
- iv) To determine the best practises in ICT aided school education.
- v) To explore the future potential and scope of ICT in school education.

## **II.A. The Process of Development of IT@school and related development :**

The process of it@school project evolved over a number of years. The important milestones were as under :

- 2000 – A task force was set up, headed by Prof.U.R.Rao & the Vision Document was submitted.
- 2001 – IT@School Project was established and IT campaigns were conducted statewide
- 2002 – Network of Master trainers and School IT Co-ordinators were formed and Teacher empowerment programmes started
- 2003 – IT became a Compulsory subject in State Curriculum, IT practical exams undertaken.
- 2004 – District Resource Centers of the Project were setup and IT enabled contents developed.
- 2005 –IT@School Linux was developed. EDUSAT ViCTERS network was also launched.
- 2006 – Complete shift to Free Software, Handbooks and supplements developed.
- 2007 – IT practical exam were conducted entirely on FOSS.
- 2008 – (i) Broadband connectivity was provided to all schools in the state
  - (ii) Piloting of ICT enabled education from IT education commenced
  - (iii) Laptops were issued to all schools in the state
  - (iv) IT@School was selected as the nodal agency for all e-governance initiatives within Department of General Education
  - (v) IT@School Project enabled a complete FOSS implementation within the Education department.
- 2009 – (i) The shift to ICT enabled education was at pace
  - (ii) ViCTERS educational channel was made available in all local cable networks
  - (iii) Electrification of classrooms was initiated by the Project
  - (iv) IT@School Project was expanded to Upper Primary and Higher Secondary sections.
- 2010 – (i) Complete implementation of ICT enabled education in the state commences.
  - (ii) School Wiki was launched by the Project

- (iii) Model ICT schools with Smart Classrooms are being implemented statewide
- (iv) Training for over 28,000 Student School IT Co-ordinators was undertaken.

## **II.B. Methodology of Gathering Data**

### **Primary Methodology of gathering data**

First, I visited the Vocational Higher Secondary School for Girls, Nadakavu as it was one the schools in the city where Information and Communication Technology is implemented in teaching the students. There, I discussed various aspects of the IT@school project with the Principal of the School, Ms. Beena Philip followed by an interactive session with Mr. Omkaran, the ICT coordinator of the school. He provided us with technical information about how the ICT is used to cultivate a better environment for learning.

Thereafter, I conducted a survey among 40 students of the school from class IX and X to seek their opinion and ideas on the various learning methods used in ICT.

I also discussed with the Headmaster, Mr. A.K Balan and the Social Science teacher, Mr. Chandrasekharan and sought their views on the implementation of it@school project. The English teacher, Mr. Mohammed Iqbal also shared his experiences of teaching the students using this technology.

I also had a meeting with Ms. Priya , the District Coordinator of ICT. I was provided additional information about ICT by Mr Suresh, Mr. Paul and Mr. Manoj who are master trainers working in the district office of ITF which is a government subsidiary to impart ICT in Kerala.

I also conducted a telephonic interview with Ms. Jayakala, IT coordinator at Govt HSS, Pathiripala to seek her suggestions about the future roadmap for this project.

### **Secondary Methods**

I collected data over the internet. I also browsed through magazines and went through many newspapers for data.

### **III. DATA AND DESCRIPTION**

#### **III.A. List of Commonly Used Software**

Subject	No. Of Softwares Available	Commonly Used Softwares
Mathematics	76	<ul style="list-style-type: none"> <li>• Rplot Graph Generator</li> <li>• Mathwar</li> <li>• Maxima Algebra System</li> <li>• Root</li> <li>• Euler</li> <li>• Geogebra</li> </ul>
Chemistry	28	<ul style="list-style-type: none"> <li>• Kalzium</li> <li>• Gchemical</li> <li>• Chemtool</li> <li>• Gperiodic</li> </ul>
Physics	13	<ul style="list-style-type: none"> <li>• STEP(stimulate physics experiments)</li> <li>• Gvb</li> <li>• Labpilot</li> <li>• Paw++</li> </ul>
Biology	25	<ul style="list-style-type: none"> <li>• fastDNAml</li> <li>• Rasmol</li> <li>• MassXpert</li> <li>• Clustal X</li> </ul>
Geography	11	<ul style="list-style-type: none"> <li>• Marble</li> <li>• Geotranz</li> <li>• Kgeography</li> <li>• Tangogps</li> </ul>
Astronomy	12	<ul style="list-style-type: none"> <li>• Celestia</li> <li>• Kstars</li> <li>• Stellarium</li> <li>• Planets</li> </ul>
Graphics	151	<ul style="list-style-type: none"> <li>• Inkscape</li> <li>• Pencil</li> <li>• Kolourpaint</li> <li>• K-3d</li> <li>• 2p</li> </ul>
Programming	10	<ul style="list-style-type: none"> <li>• Geany</li> <li>• Scratch</li> <li>• IDLE(integrated development environment for python)</li> </ul>
Languages	8	<ul style="list-style-type: none"> <li>• Goldendict</li> <li>• Thangman</li> <li>• Kletter</li> </ul>

### **III.B. Hardware Specifications**

A technical committee of the IT@School Project was constituted with Dr. Jayasanker (Retd. Principal, Barton Hill Engineering College and an eminent technocrat) and Sri Anvar Sadat, Executive Director, IT@School Project as convener. The other key members were from Centre for Development of Advanced Computing (CDAC), Kerala State IT mission (KSITM), Information Kerala Mission (IKM) etc.

The Government vide G.O(Rt.)5120/2007/G.Edn., Dated 9/11/2007 has authorized the Director of Public Instructions (DPI) to constitute a technical committee to centralize the price, specification, quality and service conditions of computer and hardware/software purchase to schools.

The Technical Committee appointed vide Order No.NEP-3/80281/07/DPI of the DPI dated 07.12.2007 was the monitoring body for Price and implementation strategy of the Scheme.

The Technical Committee's identified Keltron as service provider, based on the condition that the purchase will be made transparent and ensuring the participation of Technical Committee at every purchase process adopted by Keltron regarding this supply.

The Technical Committee monitored and decided on the specification and rates of the items to be supplied. The specification of the computer and accessories of the supply currently being undertaken was as follows:

<b>PC</b>	<b>600 VA Offline UPS</b>	<b>DLP Projector</b>	<b>Television</b>
Intel Pentium E 2000 Series Processor Asus/ Gigabyte/MSI Mo ther Board 1 GB DDR II RAM DVD Writer 15" TFT Color Monitor	10 to 15 mts backup 3 year warranty including battery	2000 Lumen Resolution : SVGA (800 X 600) PC compatibility (SXGA), XGA, SVGA, VGA) Full function, Wireless Remote, Screen & stand, Three year warranty	LCD(Liquid Crystal Display) 22 inch Cable Connection

IT @Linux preloaded 3 year warranty		(onsite) Lamp (90 days)	
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### III.C. Training Programmes

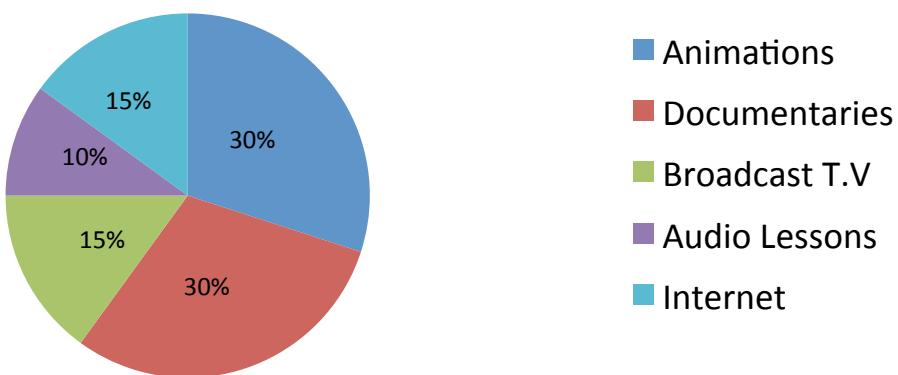
These Govt. sponsored training programmes are conducted by Master Trainers from IT@school for a maximum duration of six consecutive days every year.

- **ICT training:** Training given to familiarise the basics of Operating Systems and office packages and other application software.
- **Hardware Training:** 3 day training programme on hardware maintenance and basic support.
- **Internet Training:** This 20 hour training programme was given to all SITCs and interested school teachers. The trained SITC then trained all High School teachers in their school. Government has also issued strict instructions that every student in Std X in the school should get at least 10 hours of internet exposure per year.
- **IT Training for the Visually challenged:** In association with Insight scheme of Kerala State IT Mission, the Project has successfully imparted IT training using free software for teachers of special schools for visually challenged, by exclusively using free software based screen reading software named ORCA.
- **Camera handling training:** Two day training on camera handling was given to the teachers, enabling them to create educational videos which could be beneficial in implementing ICT enabled education.
- **Training on ICT enabled content:** Specific training on ICT enabled content was provided to teachers so as to enable them to use ICT enabled content in all subjects in order to equal teachers in classroom transaction.

## **IV. SURVEY CONDUCTED IN GVHSS, NADAKKAVU**

**Figure 1**

**Pie chart on Use of ICT Tools in High School Education**



**Figure 2**

## **V. ANALYSIS OF DATA**

From figure 1 it is clear that the maximum percentage of ICT tools are used for Science(60%). Whereas its usage is less in Social Science(30%) and the lowest in languages (10%). This appears to be a reasonable position.

It can be seen from figure 2 that among all the ICT tools animations and documentaries are the ones that are most commonly used (30% each). Audio lessons are the least commonly used tool at 10%. Broadcast TV and internet are more commonly used at 15%. Considering various advantages of the Internet, it is suggested that steps may be taken to increase the use of Internet for teaching, to 25%, by suitably reducing the share of documentaries.

## **VI. RESULT**

i ) Almost 40% of schools in the district have implemented ICT either through IT@school program(in case of govt. Schools) or other programs.

ii )The implementation of ICT is not uniform with more percentage of tools being used for Science subjects. Non availability of software on some subjects is a major concern.

iii )There also seem to be a high percentage of documentaries and animations being used as ICT tools. Higher importance may be given to internet-based teaching.

The other observations based on the primary and secondary data collected are as under:

### **Advantages of ICT based School Education:**

- Computerized education will always be current**

As information in the world explodes, teachers find it difficult to absorb all developments. Keeping students abreast of new advances is particularly important in scientific fields. It is much easier to update one computer program that will be used in thousands of classrooms than to update the working knowledge of thousands of teachers now in those classrooms.

- Individualization of learning**

This means that people learn as individuals and not as a homogenous group. ICTs allow each individual to relate to the medium and its content.

- Interactivity:** Interactivity is the way in which a person can relate to the content, go forward and backward in the content, start at any point depending upon prior knowledge instead of always in a sequential way.

- Can serve multiple teaching functions and diverse audiences:**

ICTs, especially the computer and Internet based can be useful in drill and practice; to help diagnose and solve problems, for accessing information and knowledge about various related themes.

- **Proficiency in computer use**

It gives students more exposure on handling computer hardware and software.

- **Aids Visualisation and creativity**

It promotes learning through visual imagination which calls for creativity and deep understanding of the topic and thereby offers a long lasting memory of the concept.

## **Challenges to ICT based education**

### **Availability of Infrastructure to Support ICT**

- Availability of adequate infrastructure to support the deployment of ICTs in schools is a tremendous challenge that schools in the region currently face. Apart from the high initial cost of purchasing and setting up the requisite infrastructure, the maintenance and upgrade costs, as well as the cost and effort of supporting such infrastructure especially in poor and remote areas is a matter that needs to be attended to.
- It must be ensured that basic requirement of appropriate rooms are available to house the technology. Old school buildings must be renovated to ensure proper electrical wiring, heating/cooling and ventilation, and safety and security.
- Another basic requirement is the availability of stable electricity and telephony. There is also the need for adequate backup power supply.
- Insufficient access to computers is one of the main obstacles to the spread of ICT usage in school education. This is more so in the case of rural areas where the school is often the only access point for computers.
- Strong, sustainable partnerships between the Government, private sector and civil society must be built to offset costs and mitigate the complexities of the integration of ICT in education systems .
- **Availability of Funds to Implement ICTs**

Given the current budgetary and resource constraints of Governments, investment in ICTs may be done in PPP mode.

- **Capacity Building of Teachers**

The project must have built-in component for capacity-building of teachers.

- **Resistance to Change**

Resistance is commonly witnessed while attempting to introduce ICTs into schools, very often from the teachers themselves, since they may be of the

opinion that they shall become redundant once technology comes in or due to their perception that it is too late for them to adapt to a new environment.

- **Internet Usage**

While the Internet contains tremendous potential for education, as described in the sections earlier, it also has its own pitfalls. For one, providing all the students with Internet access is a very expensive proposition for most Government schools. This is more so in the case of rural centers and remote areas, where Internet connections are bound to be erratic, if available at all.

- **Language Barriers**

English is the dominant language of the Internet. An estimated 80 percent of online content is in English. A large proportion of the educational software produced in the world market is in English. For developing countries like India, where English language proficiency is not high, especially outside metropolitan areas, this represents a serious barrier to maximizing the educational benefits of the World Wide Web.

## **VII. CONCLUSION**

ICT has revolutionised the modern day education system. It has changed the perspective of education in our country. The implementation of projects like IT@school has changed the face of school education in even the rural areas of our country. Though ICT has seen progress in recent times it has not been fast enough. The lack of training among teachers is a major hindrance for the progress. ICT is here to stay as can be seen from the warm reception it has received from all areas. Teachers and students attest to how it has improved the cooperation among them. The programs that have been implemented have managed to arouse in students a never before seen interest towards academics. Even though ICT programs have been implemented in limited subjects the impact it has had on the result in these subjects is telling and clearly indicates that ICT is here to stay.

## VIII. RECOMMENDATIONS

- **Focus on Capacity Building**

It is suggested that the B.Ed course shall ensure ICT-based teaching and learning methodologies be integrated into the educational streams and build capabilities to the next-generation teachers with the capacity to handle ICT facilities with ease. In addition, teachers must have adequate access to functioning computers (or other technologies) and sufficient technical support.

- **Alternative Power Sources**

Given the situation of power shortages in India, and the effect of power shortage on the usage of computers and other technologies in schools, the Governments should actively promote the usage of alternate sources of power such as solar energy. This ecologically friendly solution will also ensure a steady power supply to schools in rural areas.

- **Localisation of ICT Tools**

The language barrier should be considered and the availability of ICT should be made according to the needs and desires of the countries in order to facilitate appropriate learning and local ownership of knowledge.

- **Developing Technology for Broadcast Television**

India has invested significantly in educational television and already has a commendable satellite television infrastructure, schools should focus on leveraging this technology. Some Indian educational channels are planning to switch to DTH soon, and it is very practical for them to do this. Due to the rapid fall in the cost of servers and storage, it is possible to record thousands of hours of TV programmes in digital form onto a server and make it available on demand from every PC on the LAN.

- **Creative Solutions to Computer Shortages**

Computer-based ICT interventions require significant investment in hardware. In addition, the expected active life of a computer is about 5 years. Computer recycling is an ecologically sound alternative to

this problem. A growing number of not-for-profit organizations are dedicated to the tasks of collecting, refurbishing, and finding new homes for old computers.

- **Funding**

Considering the fast pace of technological development, it must be ensured that adequate funds are made available for upgradation of ICT tools.

## **IX. ENDNOTES**

- i) As Ms. Jayakala, IT coordinator, GHSS, Pathiripala of the IT@school project could not be met personally, I conducted the interview over phone and sought her feedback and suggestions.
- ii) The idea of selecting a school in the rural area was to find out if the project has indeed reached the rural children.

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## **XII. GLOSSARY**

- **FOSS- Free and open source software** is software that is both free software and open source. It is liberally licensed to grant users the right to use, copy, study, change, and improve its design through the availability of its source code.
- **OS(Operating System)**- An operating system (OS) is a collection of software that manages computer hardware resources and provides common services for computer programs. The operating system is a vital component of the system software in a computer system. Application programs require an operating system to function.
- **DTH- Direct to Home** uses satellite television broadcasts for home reception

### XIII.

### APPENDIX I



Figure 1:Meeting with Ms.Priya, Mr.Suresh and Mr.Paul



Figure 2:Mr.Paul demonstrating softwares used in ICT



Figure 3:GVHSS,Nadakkavu,Kozhikode.

**RELATED DEVELOPMENT – ICT in the field of Education**

In the late 1990s, deregulation of the telecommunication industry began a dramatic improvement in access to basic telephony and Internet services for the general population.

**Related Development in our Country****2000: GyanDarshan**

GyanDarshan was launched by the Govt. of India in January, 2000, with three completely digital and round-the-clock TV channels dedicated to education.

**2001:GyanVani**

In November 2001, an FM radio channel, GyanVani was launched through different FM stations in the country.

**2002: VidyaVahini**

In 2002, Govt. of India launched a project called VidyaVahini to provide for IT and IT-enabled education in 60,000 schools in India over three years (India has about 1.1 million schools), as part of a Rs. 6,000 crore project. Beginning with a pilot covering 150 schools to equip each school with a computer lab equipped with Internet, Intranet and television to facilitate videoconferencing, Web-broadcasting and e-learning

**2004: Edusat**

Launched in September 2004 at a cost of USD 20 million, Edusat is India's first dedicated education satellite. With footprints covering the entire country, Edusat makes it possible for receive Direct to Home quality broadcasts of educational programs using any television set and a low-cost receiver. The result of a collaboration between the Indian Space Research Organization (ISRO)and, the Union Ministry of Human Resource Development, State Departments of Education and the Indira Gandhi National Open University (IGNOU).

**2002 – 2007: The Tenth Five -Year Plan**

The Tenth Five-year Plan outlined goals of improving access and reducing disparities with the Common School System, as well as renewal of curricula with emphasis on vocationalisation and employment-oriented courses;

expansion and diversification of the Open Learning System; reorganization of teacher training and greater use of ICT.

### **2006: Broadband connectivity in all secondary schools**

On May 20, 2006, The Government of India, Ministry of HRD, Department of Secondary and Higher Education issued an order for the Constitution of an Integration Action Plan to implement Broadband connectivity in all secondary schools.

The Information and Communication Technology (ICT) in Schools Scheme was launched in December, 2004 to provide opportunities to secondary stage students to mainly build their capacity on ICT skills and make them learn through computer aided learning process. The Scheme is a major catalyst to bridge the digital divide amongst students of various socio economic and other geographical barriers. The Scheme provides support to States/UTs to establish computer labs on sustainable basis. It also aims to set up smart schools in Kendriya Vidyalayas and Navodaya Vidyalayas which are pace setting institutions of the Government of India to act as “Technology Demonstrators” and to lead in propagating ICT skills among students of neighbourhood schools.

Based on the experience gained so far, the Scheme was revised, in July 2010.

### **Components of the scheme**

The scheme has essentially four components:-

I      The first one is the partnership with State Government and Union Territories Administrations for providing computer aided education to Secondary and Higher Secondary Government and Government aided schools.

II      The second is the establishment of smart schools, which shall be technology demonstrators.

III     The third component is teacher related interventions, such as provision for engagement of an exclusive teacher, capacity enhancement of all teachers in ICT and a scheme for national ICT award as a means of motivation.

IV     Fourth one relates to the development of a e-content, mainly through Central Institute of Education Technologies (CIET), six State

Institutes of Education Technologies (SIETs) and 5 Regional Institutes of Education (RIEs), as also through outsourcing.

The highlights of the revised scheme are:-

- a The non-recurring expenditure for school has been revised from Rs. 6.7 lakh to Rs. 6.4 lakh whereas annual recurring expenditure has been revised from 1.34 lakh to Rs. 2.70 lakh. The recurring cost will be provided for a period of 5 years from the year of sanction.
- b The objective of the Scheme is to cover all Government and government aided secondary and higher secondary schools by giving priority for early coverage of schools in educationally backward blocks and in areas having concentration of SC/ST/minority/weaker section.
- c Under the revised scheme, there is a provision of a suitably qualified full time computer teacher in each secondary and higher secondary school. In case of higher secondary school having computer related subjects as elective, there would be need for a post graduate in computers teacher.
- d There are provisions for in-service (induction and refresher) training for all teachers in secondary and higher secondary schools to enable them to impart ICT enabled teaching.
- e 150 smart schools would be sent up by State Government and UTs at the district level using a grant of Rs. 25 lakh for a schools and a recurring grant of Rs. 2.5 lakh per year. This would enable provision of at least 40 computers in each such school.
- f There is a provision to strengthen SIETs to contribute to e-content development.
- g Management, monitoring and evaluation will be strengthened.
- h Convergence with the existing programme would be essential especially in teacher training and ensuring reliable power supply and internet connectivity.
- i The scheme includes National Award for teachers using ICT in schools in the teaching learning process.

j The sharing pattern will be 75.25 between the Centre and the State except for the north eastern States including Sikkim where the ration would be 90.10.

### **Coverage**

The scheme currently covers both Government and Government aided Secondary and Higher Secondary Schools. Financial assistance is provided for procurement of computers and peripherals, educational software, training of teachers, development of e-contents, Internet connectivity & set up of smart schools.

### **Financial Assistance and cost norms**

Financial assistance is given to States, CIET and SIETs on the basis of the approvals accorded by Project Monitoring and Evaluation Group (PMEG) chaired by Secretary (School Education and Literacy). The project cost is shared between Centre and States in ration of 75:25 except for the NER states including Sikkim where it is 90:10.

### **Smart School**

Out of 150 smart schools 63 smart schools have so far been approved in 12 States and 3 UTs under ICT in Schools Scheme.

### **ICT Policy**

A Committee has been constituted to draft a Policy on the usage of ICT in Schools Education. A draft policy has been prepared which is in the final stage. The draft policy aims at using ICT for preparing youth to compete globally and participate creatively in the establishment, sustenance and growth of a knowledge society.

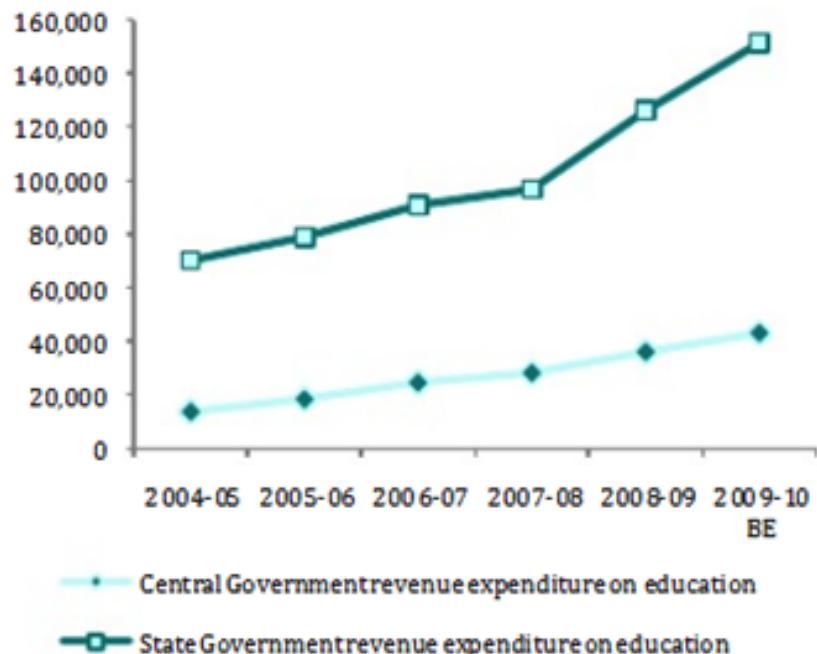
### **National Award for Teachers using ICT for Innovation in Education.**

The entries for the ICT award for 2010 and 2011 have already been screened

## XV.

## APPENDIX III

### EXPENDITURE ON EDUCATION



## **XVI. APPENDIX IV**

### **QUESTIONNAIRE**

#### **For Teachers and Instructors**

- i) Brief about background of school and infrastructure facilities
- ii) Current status of ICT infrastructure in school
- iii) Availability of hardware and hardware to student ratio
- iv) Syllabus, curriculum and content
- v) Legal and genuinity of application softwares
- vi) Student participation and teacher student interaction
- vii) Learning facility for teachers
- viii) Status before and after implementation of ICT
- ix) Support from government, private agencies and NGOs.
- x) Expectations
- xi) Funding

#### **For the Students**

- i) Do you find studying easier with ICT tools?
- ii) What difficulties do you experience in this method of learning?
- iii) What training have you received for use of ICT tools.
- iv) How frequently are the following used :
  - a)Animations
  - b)Documentaries
  - c)Internet
  - d)Broadcast TV
  - e)Audio Lessons
- v) How frequently is ICT implemented in the following :
  - a)Sciences
  - b)Social Sciences
  - c)Languages