

Analytical study of Computer Education at higher secondary level under CBSE Curriculum in Guwahati city, India

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Abstract

Human efforts to develop an efficient calculating machine led to invention of a Computer. The advancement in technology changed the scenario and computer education that have found place in almost every educational institutions.

At Higher Secondary (H. S.) level under CBSE curriculum, computer education plays a crucial role in producing computer professionals. Therefore for each generation it is essential to generate higher quality teaching force with adequate facilities for H.S level. The study was designed and conducted with following two specific objectives :

- 1) To study the laboratory facilities in computer section.
- 2) To access the sex wise level of interest in the subject of Computer Science.

In order to collect the data and to have an insight the existing status of computer education, a sample of 525 : 504 of students; 14 of teachers and 7 no's of leading institutions of Guwahati city have taken into consideration on the basis of questionnaire and interview schedule.

To analyse and interpretation of data, tabular observations were used to cover the specific objectives of the study.

In this study, it was found that, learning computer applications at H.S. level depends upon the laboratory facilities with adequate infrastructure. And, irrespective of sex ratio, students were more interested in attending practical classes in comparison to theory classes. Another finding of this study is that, in terms of enrolment in computer science at H.S. level, Boys were ahead of Girls under CBSE curriculum in Guwahati city.

To analyse the present study, the investigator has given proper weightage of parent-teachers association along with the students, which could play a vital role in actualizing the objectives of teaching-learning process of computer education and to achieved the educational benefits from the source of continuing growth of computer applications effectively and successfully.

Keywords : Computer eudcation, HS level, CBSE curriculum.

1. Introduction

The design of Analytical engine developed by Charles Babbage in 1883 laid the foundation of Modern Computer. The age of computers is dawning in schools and serves major two purposes. They exposed students to modern technology, while inculcating in them a new and scientific approach to learning. A computer is a high speed device, ranges from 10-6 sec. to 10-12 sec. to perform the operation. Super computer can perform well over 2500 million arithmetic operations per second. Introduction of computers at H.S level described the following terms during teaching learning process.

CAI : Computer Assisted Instruction
CAL : Computer Assisted Learning
CAT : Computer Assisted Training
CBT : Computer Based Training
CMI : Computer Managed Instruction
CML : Computer Managed Learning.

The typical classroom instructor use good application software and use computer as a management tool. The following topics are covered in the foundation block for the secondary and Higher secondary educational :

- i) Computer managed records – Grade book, test banks of questions and achievement records.

- ii) Drill and practice material
- iii) Tutorials
- iv) Entire curriculum package
- v) Video/computer interface
- vi) Computer as an exploratory tool
- vii) Software evaluation and selection.

- 3. Maharshi Vidya Mandir
- 4. Kendriya Vidyalaya, Noonmati
- 5. Kendriya Vidyalaya, Narengi
- 6. Kendriya Vidyalaya, IIT,Guwahati
- 7. Shrimanta Sankar Academy, Dispur.

1.1 Objectives

For the analytical study of the title the investigator has taken the following 2 (two) specific objectives,

- i) To study the Laboratory facilities in Computer section.
- ii) To access the sex wise level of interest in the subject of computer science.

1.2 Area of the Study

The investigator has selected 7 (seven) no. of leading institutions under CBSE curriculum in Guwahati – the capital city of Assam. These selected institutions are :

- 1. Delhi Public School
- 2. South Point School

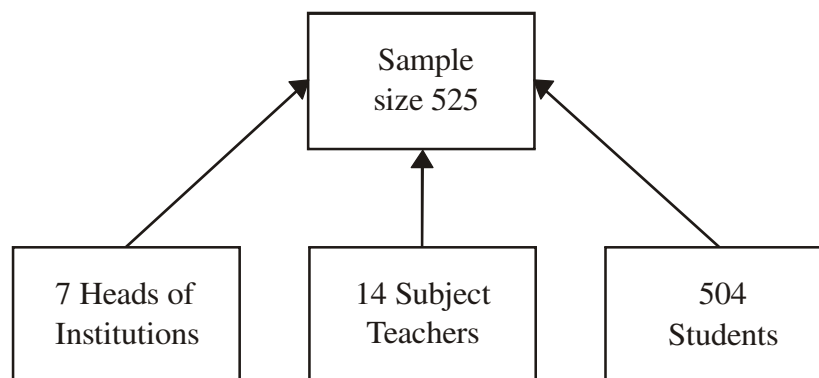
1.3 Delimitation of the Study

It is to be mentioned that the present study has been conducted with 7 (seven) leading educational institution and study is delimited in the following respects :

- i) The study is restricted in Guwahati city only
- ii) Limited no. of Sample size
- iii) The study covers 2(two) objectives only
 - a) Laboratory facilities
 - b) Sex wise level of interest
- iv) Data collection is restricted through Questionnaire and Interview.

Though the study is delimited, it is expected that the findings of the study would be bound to these limits and would be possible to extend the entire study to a certain extent beyond these limits.

Diagrammatical representation of sample size



2. Methodology

Descriptive Survey method has been used by the investigator to carry out the present study.

2.1 Tools for data collection

Questionnaire : Systematic compilation of questions that are administered to a sample of population from which information is desired.

Interview : Process of communication or interaction in which the subject or interviewee gives the needed information verbally in a face-to-face situation.

3. Analysis and interpretation of data

The investigator collected the relevant data for preparing this paper. After collection of data, a systematic statistical analysis and interpretation has been made as follows :

Table - 1 : Laboratory Facilities

Sl. No.	Name of the Institution	Lab. Facilities	Internet
01	Delhi Public School	✓	✓
02	South Point School	✓	✓
03	Maharshi Vidya Mandir, Silpukhuri	✓	×
04	Kendriya Vidyalaya, Noonmati	✓	×
05	Kendriya Vidyalaya, Narengi	✓	×
06	Kendriya Vidyalaya, IIT (G)	✓	✓
07	Shrimanta Sankar Academy, Dispur	✓	×

The above table reveals that, the laboratory facilities of all the leading Schools at H. S. level under CBSE curriculum are good for both teaching and learning. But the Internet facilities at the laboratories are not available for the students in 4 (four) institutions out of 7 (seven).

Table - 2 : Ratio of Students Vs. Computers

Sl. No.	Name of the Institution	No. of Students (Class xi & Class xii)		Total	No. of Computers
		Boys	Girls		
01	Delhi Public School	42	28	70	70
02	South Point School	61	28	98	40
03	Maharshi Vidya Mandir, Silpukhuri	60	35	95	40
04	Kendriya Vidyalaya, Noonmati	35	25	60	35
05	Kendriya Vidyalaya, Narengi	35	25	60	35
06	Kendriya Vidyalaya, IIT (G)	40	30	70	70
07	Shrimanta Sankar Academy, Dispur	37	23	60	40

Table 2 reveals that—

- No. of students include both class xi & class xii.
- Two separate laboratory arrangement both class xi & class xii.
- The enrolment of boys is more in comparison to girls.
- One Computer is allotted for every student in the laboratory.

Table - 3 : Sex wise Level of Interest**(i) For Boys**

Sl. No.	Name of the Institution	Theory Classes		Practical	
		Yes	No	Yes	No
01	Delhi Public School	✓		✓	
02	South Point School	✓		✓	
03	Maharshi Vidya Mandir, Silpukhuri	✓		✓	
04	Kendriya Vidyalaya, Noonmati		✓	✓	
05	Kendriya Vidyalaya, Narengi		✓	✓	
06	Kendriya Vidyalaya, IIT (G)	✓		✓	
07	Shrimanta Sankar Academy, Dispur		✓	✓	

The above table reveals that—

- 57% boys are interested in theory classes.
- Cent percent boys are interested in practical classes.
- Boys prefer practical classes than theory classes.

(ii) For Girls

Sl. No.	Name of the Institution	Theory Classes		Practical	
		Yes	No	Yes	No
01	Delhi Public School	✓		✓	
02	South Point School	✓		✓	
03	Maharshi Vidya Mandir, Silpukhuri	✓		✓	
04	Kendriya Vidyalaya, Noonmati	✓		✓	
05	Kendriya Vidyalaya, Narengi	✓		✓	
06	Kendriya Vidyalaya, IIT (G)	✓		✓	
07	Shrimanta Sankar Academy, Dispur	✓		✓	

The above table reveals that

- Cent percent girls are interested in theory classes.
- Cent percent girls are interested in practical classes.
- Girls are equally interested in both theory and practical classes.

4. Results and Discussions

The present study was done during a short period of time with a limited sample size from selected leading institutions in the Guwahati city. Based upon the experience gained during the study,

the investigator felt that further studies can also be undertaken on the basis of present study. Investigator used tabular observations to extract results from analysis and interpretation of data as under :

- The laboratory facilities of all the leading schools at H.S level under CBSE curriculum are good for teaching and learning. But the internet connectivity is not available for students in all institutions.
- In both class xi and class xii the enrolment of Boys are ahead of Girls.
- The separate practical arrangement for the students of class xi and class xii where the student-computer ratio in the laboratory is 1:1.
- Girls are equally interested in both theory and practical classes but boys are interested more in practical.

In the light of discussion of the study it is clear that, adequate facilities in computer laboratory should be maintained at any cost so that students get full freedom in terms of understanding the contents. In addition, teachers should devote more time and

labour to attract the minds of both Boys and Girls equally towards the better teaching-learning environment so that educational benefits can be extracted from the source of continuing growth of internet and proliferation of computers.

5. Conclusion

From the study it is clear that, Computers have multidimensional applications in all most every corners of life. It provided guidance and counseling for both teachers and students to continue its growth. Computer applications encircled millions of people from learning objectives to employment benefits and to achieved these the laboratory facilities is a must for learners. It is also evident from the study that both Boys and Girls are cent percent interested in theory and practical. Therefore the theory part is to be framed and upgraded in such a way that the students as a whole can achieved both knowledge and power in the field of IT world.

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