CHAPTER VII

FINDINGS, CONCLUSIONS AND SUGGESTIONS

1. Student’s Response
2. Parents Response
3. School Teachers/Respondents
4. Suggestion
5. Scope for Future Study
MAJOR FINDINGS

Present research was undertaken with a view to study computer awareness among school going secondary students in Pune city and necessary data was collected from selected schools, students and their parents. The data thus collected is analyzed and interpreted to arrive at meaningful conclusion. The conclusion/findings are presented below-

7.1 STUDENT'S RESPONSE

1. 95.45% students use computer in schools followed by 50.45% of them use computer at home. Thus 95.45% of the students use computers in schools (Table 6.3.1), pp-217

2. Regarding source of help in case of difficulty while using computer, majority (mean value- 4.89) of the students depended on their school teachers followed by parents. This indicates the important role played by parents and teachers in promoting computer literacy among school students (Table 6.3.2), pp-218

3. 65.45% students use computers for doing homework and other assignment; This percentage is higher (82.38%) from students of granted/aided schools (Table 6.3.3), pp-219

4. 73.86% students spent time for playing computer games, up to one hour a week. Only 26% of municipal school students use it for 1-5 hrs per week. 7.5% of the total number of students did not use computer for playing games (Table 6.3.4), pp-220

5. Students using computers for MS-Excel accounted for 49.09% students, for the time up to one hour per week, where the students from aided school accounted for 70% students and students from municipal school accounted for 82%. (Table 6.3.5), pp -221

6. 55.22% students use computers for MS-word per week. While 7.5% students does not use MS-word. (Table 6.3.6), pp-222

7. Regarding the use of computers for downloading software, 46.35% of students use computers for this purpose, where as 94.00% of municipal school students does not use computers for downloading (Table 6.3.7), pp-223
8. Using computers for browsing has remained a neglected activity as only 35.92% of the students use computers for browsing. Those students who do not use computers for browsing were 61.13% (Table 6.3.8), pp-224

9. 48.63% students did not use computers for playing games, those who use computers for this purpose accounted for 26.13% (Table 6.3.9), pp-225

10. The tendency to use computers for playing online games is 34% in private and 27% in central board students as compared to the aided schools students which is 15%. While 75% of student does not use computer for chatting. (Table 6.3.10), pp-226

11. The practice of using computers for the purpose of chatting was observed to be common among the students from private and central board schools. The percentage of the students not using computers for chatting was 92.50% from aided schools, 53.23% from central board and 19.34% private school students. Also 98.00% of students from municipal school do not use computer for chatting (Table 6.3.11), pp-227

12. Regarding using the internet at home, 77% of the students from aided schools did not use it because of non-availability of computers and computer connectivity with internet. However, 46.67% of the central board schools students used internet at home for more than 5 hours a week. None of the student from municipal school uses internet at home as they don’t have computer at home. (Table 6.3.12), pp-228

13. 100% students from the central board and private schools use internet at their schools mostly for a period of up to one hour per week, 90% of the students from aided schools and 100% students from municipal schools do not use it because of non-availability of internet at their schools (Table 6.3.13), pp-229

14. It was observed that the tendency of using internet at the friend’s house was relatively higher 42.05% in case of the students from private schools, central board schools and aided schools. 100.00% of municipal school students were not using internet at their friends house (Table 6.3.14), pp-230

15. 45.22% of students use internet at cyber cafes. 85% aided school students and 50.00% of municipal school students were not using internet at cyber café as they are not able afford it. (Table 6.3.15), pp-231

16. Regarding students views about useful location of computers with internet access, majority (mean 3.52) of the students preferred it at computer
lab followed by students own houses (mean 3.33), as compared to the availability in their classroom (mean 2.00) (Table 6.3.16), pp-232

17. 67% of students felt that the computers should be used be for teaching subjects mathematics, history, geography and science. (Table 6.3.19), pp-236

7.2 PARENTS RESPONSE

1. 53.18% parent’s respondents were from the age group 35-45 years. (Table 6.2.1), pp-206

2. 57.50% of the total parent respondents were undergraduates. 23.86% of parents were graduates. 70% of the parent’s of students from the central board schools were post graduates. (Table 6.2.2), pp-207

3. 30.22% of the total respondents (parents) had their annual income in the range of Rs. 2-3 lakhs and 30.90% of parent’s had their annual income in the range of Rs. 5 lakhs and above. Majority of the parent’s(32.50%) were having annual income upto 2 lakhs of Rupees. (Table 6.2.3), pp -208

4. 27.72% of parents were professional, 34.31% of the parent’s were businessmen followed by 27.50% service sector. Housewives accounted for 2.27% and other 9.31%. (Table 6.2.4), pp-209

5. Regarding the parent’s view about the computer education, 97% of parent’s had the view that in modern times computer education is a must for their children. 86% of the parent responded that computer education has positive effect on their children academic performance and 79% of them had the view that having computer led to better utilization of children time. (Table 6.2.5), pp-210

6. 97% of the parents expected that, computer education helps children to pursue their carrier and 95% parents expected that computer education helps in enhancing children knowledge. 76% of the parents expected that computer education enhances children communication ability. According to 62% of parents computer education helps children to survive and grow in modern society. (Table 6.2.6), pp-213-215

7. Majority of the parents (4.89 mean value) agreed that their children learn more about computer from teachers, followed by parents and friends. Hence teacher plays an important role. (Table 6.2.7), pp - 216
7.3 SCHOOL TEACHERS/RESPONDENTS

1. Out of 44 schools selected for the study 21(53.85%) were aided/granted schools. 03(7.39%) were central boards schools, 15(38.46%) were private schools and 5(11.37%) were municipal (Table 6.1.1), pp-180

2. 93.18% schools were recognized by the Maharashtra state secondary and higher secondary board and 7.69% schools were recognized/affiliated to the central board (Table 6.1.1), pp-180

3. Among 44 respondents from the schools, 36(79.49%) were computer teachers. Out of which 16(36.36%) are from aided/granted, 5(100%) from municipal schools, 3(100%) from private schools and 12(27.27%) and 8(20.51%) were lab instructor (Table 6.1.2), pp-181

4. 61.36% respondents ie computer teachers were graduates, 15.91% were post graduates in computers and the rest 22.72% were having MS-CIT certifications. Thus, majority of the respondents were graduates only (Table 6.1.3), pp - 182

5. Out of 44 respondents (computer teacher) from schools, 70.45% were from the age group of upto 30 years and the rest 29.54% were above 30 years of age. The majority of the computer teachers were below the age group of 30 years ie were relatively younger teachers (Table 6.1.4), pp-183

6. 61.37% of the computer teachers were having teaching experience in the range of 3-5 years, 20.45% were having teaching experience upto 3 years, 13.63% of teachers have experience in range of 5-10 years. Only 5% teachers had experience of 10 or more years. Thus majority 61.37% of teachers are having teaching experience of 3-5 years (Table 6.1.5), pp-184

7. 81.81% schools started computer education in their schools in the year 2004, 9.09% schools had started computer education in 1998 and 2 schools in 2000 and 2011 respectively. Thus, majority 81.81% of the schools covered by the study started imparting computer education in their schools in the year 2004 (Table 6.1.6), pp - 185

8. Regarding computer lab in the schools, 90.90% of the schools were having only one computer lab and 9.09% schools were having two computer labs. (Table 6.1.7), pp-186

9. 68.18% schools having 24 computers in schools. 11.37% schools are having 30 computers and 5 schools out of which 2 from private schools and 3 from
central board schools were having 40 computers in their labs. 9.09% schools, two from aided schools and two private schools having 60 computers in there labs. (Table 6.1.8), pp-187

10. 70.45% of the schools were having one computer connected with internet. Two private schools were having 10 computers connected with internet. All 100% municipal schools were not having any computer connected to the internet. (Table 6.1.9), pp-188

11. 93.19% respondents of schools responded that the number of computers available in schools is not in sufficient number. (Table 6.1.10), pp-189

12. 36.36% of the schools, had developed software required in computer lab through the teachers and all the 5 municipal school obtained softwares on contract basis. Thus, majority (54.54%) of the schools covered by the study obtained software on contract basis. (Table 6.1.11), pp-190

13. 100% aided schools, 100% central board schools, 100% municipal schools and 80.00% private schools had designed computer curriculum prepared by their respective boards. 20.00% private schools had designed computer curriculum through their school teacher. (Table 6.1.12), pp-191

14. 85% of the schools covered by the study had only one computer teacher (Table 6.1.13), pp-192

15. 56% schools had permanent computer teachers (Table 6.1.14), pp-193

16. Regarding computer period in the schools per week- 67% schools teach computer subject only once per week while 33% schools have two periods per week (Table 6.1.15), pp-194

17. Years of teaching - 68.18% and school status 59.09% were the most important factors, according to the respondents, affecting teacher’s familiarity with computer technologies (Table 6.1.16), pp-195

18. 93.18% of the schools allocated less than 2% of the budgetary funds for computer department (Table 6.1.17), pp-196

19. 70.45% schools starts imparting computer education in their school from the fifth standard, while the rest 29.54% of the schools had started it from the first standard (Table 6.1.18), pp-197

20. Subjects learnt by the students are power-point presentation (100%), drawing (100%), web surfing (93.18%). These were important subjects learnt by the students. (Table 6.1.19), pp-198
21. 22.72% schools out of 44, sent their teachers to attend seminars related to computer. 59.09% schools did not send their teachers to attend computer workshop/seminar/orientation programmes. (Table 6.1.20), pp - 200

22. 75.00% of the computer teachers never visited computer stores or computer exhibitions. (Table 6.1.21), pp-202

23. Regarding teaching methodologies used by the teachers 45.45% used CD presentation in classrooms, 63.63% teachers prepared study material through internet (Table 6.1.22), pp-203
Other findings

1. Strategic efforts made by management of schools to benefit the students by extending them computer education and to create awareness. (Table 6.3.19), pp -236

2. Central government policies for computer education helped students to gain 100% computer awareness. (Table no6.1.18), pp-197

3. Grant given to aided/granted schools is Rs. 20,000 per annum. (Table no 6.1.17), pp -196

4. Due to aid (computers) given by IT industry to aided/granted schools, students are able to explore more information in computers and are more inclined towards computer subject helping them to decide their carrier in computers.

5. All CBSE board faculties are having post graduation in computers which helps students to get knowledge about computers beyond the syllabus. (Table no6.1.3), pp -182

6. Also private schools appoint post graduate computer science faculty for teaching computer for school children which helped children to explore new areas in computer. (Table no 6.1.3), pp -182
CONCLUSIONS

1. Majority(95.45%) of the students use computers in schools (Table no. 6.3.1) , pp-217

2. Teachers and parents play an important role in promoting computer literacy among school students. (mean value- 4.89) (Table no. 6.3.2) , pp-218

3. 100% the students of municipal school does not use computer for homework and assignment. Majority of the students uses computers for homework and other assignments for the period up to one hour per week. (Table no. 6.3.3) , pp-219

4. The number of students playing computer games has been relatively higher(26.67%) in the case of central boards students and private schools students. (Table no. 6.3.4), pp-220

5. Frequency of using MS-Word by the students has to be increased for improving computer awareness among the school students. (Table no. 6.3.6) , pp-222

6. Usage of computer for downloading software is less(6%) in case of municipal school students and only 14.77% of aided/granted school students use computer for downloading software. (Table no. 6.3.7) , pp-223

7. Using computers for browsing has remained a neglected activity as 61.13% of the students do not use computers for browsing specially from aided schools which accounted for 88% and 40% municipal schools does not use computer for this purpose. Thus the percentage of the students using computers for browsing was highest among the central schools(74.76%) covered by the study followed by private school students. (Table no. 6.3.8) , pp - 224

8. The tendency to use computers up to one hour a week for playing online games is higher in private(34%) and central board students (27%) as compared to the aided schools students (15%). While (75%) of student does not use it for this purpose . (Table no. 6.3.10), pp -226

9. 98.00% of students from municipal school do not use computer for chatting. (Table no.6.3.11) , pp - 227

10. 46.67% of the central board schools students used internet at home for more than 5 hours a week and 47.33% of the private schools students used it for the period 1-5 hours a week. None of the student from municipal school uses
internet at home as they don’t have computer at home. (Table no. 6.3.12), pp-228

11. 100% students from municipal schools do not use internet at school because of non availability of internet at their schools (Table no. 6.1.9), pp-188

12. Students felt that the computers should be used be for teaching subjects mathematics, history, geography and science. (Table no. 6.3.19), pp-236

13. Most of the students were using computers for MS-Office and reference from internet. (Table no. 6.3.18), pp-235

14. Maximum (57.50%) parent respondents were undergraduates. (Table no. 6.2.2), pp-207

15. Majority of the parent’s (32.50%) were having annual income up to 2 lakhs of Rupees. (Table no. 6.2.3), pp -208

16. 97% of parent’s had the view that in present times computer education is a must for their children. (Table no.6.2.5), pp-210

17. 97% of the parents expected that, computer education helps children to pursue their carrier and 95% parents expected that computer education helps in enhancing children knowledge. (Table no.6.2.6), pp-213

18. Majority of the parents (4.89 mean value) agreed that their children learn more about computer from teachers, followed by parents and friends. Hence teacher plays an important role. (Table no.6.2.7), pp-216

19. Majority (61.36%) of the school teachers were graduates (Table no.6.1.3), pp -182

20. Majority (61.37%) of teachers are having teaching experience of 3-5 years (Table no.6.1.5), pp-184

21. 81.81% of the schools covered by the study started imparting computer education in their schools in the year 2004 (Table no.6.1.6), pp-185

22. Respondents of schools responded that the number of computers available in schools is not in sufficient number. (Table no.6.1.10), pp -189

23. Majority of the schools covered by the study obtained software required in lab on contract basis. (Table no.6.1.11), pp-190

24. 67% school teach computers only once per week while 33% schools have two periods per week (Table no.6.1.15), pp-194

25. Municipal schools, central board schools, aided/granted schools covered by the study had only one computer teacher (Table no.6.1.13), pp-192
26. Majority of the schools were having only one computer lab. (Table no. 6.1.7), pp-186
27. Central board schools had permanent computer teachers (Table no. 6.1.14), pp-193
28. Central board schools teachers and private school teachers used CD presentation in classrooms and prepared study material through internet. (Table no. 6.1.22), pp-203

7.5 SUGGESTION

Present educational system has been characterized by transition, transformation and revolution which call for a change in knowledge, competencies and skill to deal with rapid technology advances.

In India, education has been included in a concurrent list. Hence the central and state government has taken steps to perform and to promote computer awareness among the school children. However the progress in this respect has not been up to the expectations in account of various reasons.

Proper education is necessary to make the student an ideal citizen, understand the society and the social environment. School education can become efficient and effective through quality education. Quality education focuses on identification of the varieties of each individual student and nurturing such varieties for holistic development of the personality of each individual student. J.P Naik has pointed out that, equality, quality and quantity as an elusive triangle, hence maintaining equality and quality in Indian education is essential to promote quality school education where information communication technology (ICT) can play a significant role.

It was observed that the provision of computer facilities, essential infrastructure and trained, devoted and enthusiastic teachers has been highly unequal between the school and the schools affiliated to the state and central board. This has been the result of the fact that, some school authorities have placed relatively greater on these aspects as compared to the other schools. Different schools have taken varying decisions about the allocation of budgetary funds for investing an maintenance of computer facilities,
which reflects their views about the role of ICT in the schools curriculum, access to internet etc. It has been observed that 92.31% of the schools covered by the study, allocate less than 2 percent of the budgetary resources which is not desirable practice. (Table 6.1.17)

A common pool can be created amongst municipal schools to share the computer facility, expertise of teachers, internet usage, web based technology, books on computer literature. This will help to boost the moral of computer teachers as well as students in improving their computer awareness.

The role of a teacher in promoting computer awareness among the secondary students has been most critical but in practice, this aspect remains to be neglected by most of the schools in Pune city. Majority (64.10%) of the teachers were graduates without special training for achieving increasing participation of the students in using ICT in the process in their education. As teachers are key for successful computer integration in the classroom. They need to be well trained so as to be quite confident in using technology not only to teach the subject math but also create interest among the students to use ICT with benefit. For this purpose, teachers need supportive environment, general guidance, individual incentives, clear policies, curricular instructions and training along with peer support and interactive network. Teachers tend to use traditional method of teaching, which tends to be only one way communication making listening quite boring. In order to enhance student’s participation in the process of learning new and effective pedagogies of teaching ICT need to be evolved and used.

The teachers reported that they have to face number of problem for using ICT while teaching. These obstacle include lack of equipments, time, technical assistance, number of computers and their maintenance, internet connection sufficient time schedule for students using computers and lack of infrastructure especially power supply, lack of administrative support. The teachers were also finding it difficult to manage the crowded classes. Many students were not having computers at their home doing homework. Such problems need to be addressed.

A wide variety of software applications and tools, is required to promote ICT literacy and ICT enabled learning and teaching programmes. Graphics and animation, desktop publishing, web designing, database along with programming tools are necessary to
increase skills of using them. Similarly conceptual knowledge is also necessary for the teachers and students. Hence a suitable mix of software needs to be maintained by the schools. It has been observed that computer multimedia software packages and other developed packages have been found to be very effective in promoting computer literacy among the students.

Parents also have the responsibility to look after their children’s progress in education of computer awareness. As they have to deal with rapid technological progress and survive and grow under ever increasing competition, they need to develop necessary technical skills right from their younger age.

7.5 **SCOPE FOR FUTURE STUDY**

For the purpose of present study, the students from secondary classes of the selected schools have been covered. Such studies should be conducted to cover primary and higher level of education, so as to get complete picture of the ICT awareness among the students in Pune city.

Secondly similar studies should be conducted for other cities in India.

Thirdly the problem of computer awareness is more acute in rural areas in rural areas in India, hence such surveys need to be conducted for the students, studying at various levels such as primary, secondary and higher educational institutes in semi urban and rural areas.