CHAPTER-VI

SUMMARY, CONCLUSION AND SUGGESTIONS
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This chapter is an overview of the investigator’s attempt to discuss briefly the summary of the study, major findings, some general suggestions as well as suggestions for further researches.

6.1 Summary of the study

The present study was designed in order to know college students’ perception and attitude towards computer education. The investigator tried to give a clear concept regarding the meaning of perception and attitude along with the factors that affect students’ perception and attitude towards computer education. It also discussed how computer has revolutionized our system of education and how the concept of computer education has emerged with the growing use of computer in education. It also highlighted a brief description of the history of computer education in the world, India and in Assam and Nagaon district.

Education includes all the experiences that one gathers since infancy till adulthood by means of formal, informal and non-formal modes. It is the some total of all experiences that one gets through schools, colleges and other educational institutions; family, press, mass-media, clubs etc. It’s a never-ending process which starts right after the birth and continues till death. To define education in broader terms, education is life and life is education. Among all the stages of education,
higher education is considered as the backbone of future progress of students. College level of education that comes under higher education is gaining more importance now-a-days. Colleges provide education as per the needs and demands of students and in this era of scientific and technological explosions, Computer Education can fulfill the demands of students for progress.

With the progress of Computer Education in different parts of India, Assam is one of them making satisfactory progress. Various colleges have been introducing courses of computer education for the students. Taking a view of Nagaon district in relation to Computer Education, it may be mentioned that students irrespective of gender and locality were positive in their perception and attitude towards it.

Keeping in mind the demand of the study, the investigator designed the present study on *Perception and attitude of college students towards computer education in the Nagaon district of Assam: A study.*

In the first chapter of the present study, the investigator made attempt to discuss the objectives of the study, hypotheses, operational definitions of the terms, variables of the study, brief overview of Nagaon district and delimitations of the study. The formulated objectives for the present study were,

- To study the level of perception of college students towards computer education.

- To study the difference in the levels of perception of college students towards computer education.
-To study the level of attitude of college students towards computer education.

-To find the difference in attitude between male and female college students towards computer education.

-To find the difference in attitude between the students of rural and urban colleges towards computer education.

As objective 1 and objective 3 were facts finding in nature, so no hypotheses were formulated for these two objectives. Hence, the formulated objectives for the present study were,

\( \text{Ho}_1: \) There exists no significant difference in the levels of perception of college students towards computer education.

\( \text{Ho}_2: \) There exists no significant difference in attitude between male and female college students towards computer education.

\( \text{Ho}_3: \) There exists no significant difference in attitude between the students of rural and urban colleges towards computer education.

The present study was delimited to the undergraduate students. They were those students who were pursuing different computer education courses provided by the colleges. Those colleges included both rural and urban colleges. The study was conducted in the academic session 2014-15.
The chapter II of the study was the presentation of review of related literatures that the investigator collected from various sources. For the convenience of presentation, those reviews were classified as ‘studies conducted at abroad’, ‘studies conducted in India’ and ‘studies conducted in Assam’. The reviews mainly focused on students’ perception and attitude towards computer education. Moreover, difference in students’ perception and attitude regarding gender and locality towards computer education were also taken into consideration. The studies mainly covered the period from 1986 to 2017.

In chapter III, methodologies adopted for the present study was discussed. The investigator adopted descriptive survey method. It also highlighted detailed discussion of population and sample taken for the study. During the session 2014-15, there were 1127 students pursuing courses on computer education among which 587 were male and 540 were female students. Again, the numbers of students from rural colleges was 645 and from urban colleges were 482. Depending upon the nature of the population, the investigator adopted proportionate stratified random sampling technique by taking 30% (338) students for the present study. 30% students each from rural and urban colleges were selected. From the category of male and female students also, 30% students from each category were selected as sample. Thus, the numbers of male and female sample students for the study were 176 and 162 respectively. Again, 193 students from rural colleges and 145 students from urban colleges were taken as sample for the present study.
The methodology chapter also discussed about the tools of data collection as well as the statistical methods adopted for analysis and interpretation of data. Keeping in view the objectives of the study, the investigator used two self-developed tools for collection of primary data. They were one questionnaire to test the perception of students and one attitude scale to test the attitude of students. Detailed descriptions of procedures of developing the tools and standardization were discussed. For collecting secondary data, the investigator went through various reports, theses, dissertations, research reports, articles, newspapers etc collected from different libraries across the country as well as from different websites. Depending on the objectives of the study, the investigator analyzed data concerning the perception and attitude of college students towards computer education, difference in the levels of perception of college students, difference in the attitude of male and female as well as rural and urban students towards the same etc by using different statistical techniques like simple frequency percentage, Arithmetic Mean, Standard Deviation and Chi-square. For graphical representation of data, the investigator took the help of bar diagram.

Chapter IV of this study discussed about objective wise analysis and interpretation of data and hypotheses were proved accordingly. As per the objectives, the investigator examined the levels of perception by classifying into extremely high, high, above average, moderate, below average, low and extremely low levels. Likewise, the levels of attitude were divided as positive and negative. The study found that the number of college students showing average or moderate
level of perception was more than the other levels. Both in the male and female categories, the number of male and female students showing average level of perception were more than the other levels. Again, both the students of rural and urban colleges, the numbers of students showing average level of perception were more than the other levels. Again, the study showed no significant difference between male and female students’ levels of perception towards computer education. It also revealed that between students of rural and urban colleges there existed no significant difference in the levels of perception towards the same. Again, more number of college students showed positive attitude towards computer education. Students of rural and urban colleges were more in number showing positive attitude than negative. The t-ratio was found not significant at 0.01 and 0.05 levels of significance regarding male and female students’ attitude. Thus, the null hypothesis was accepted and it was concluded that there existed no significant difference in the attitude of male and female students towards computer education. The t-ratio was found not significant regarding the attitude levels of students of rural and urban colleges at 0.01 and 0.05 levels of significance. Thus, the null hypothesis was accepted and it was concluded that there existed no significant difference in the attitude of students of rural and urban colleges towards computer education.

The investigator mentioned the findings of the study in chapter V. Those findings were observed on the basis of objectives and hypotheses formulated and findings were discussed briefly according to the objectives. After the findings, a brief discussion was made keeping in view the findings and the theoretical
background of the review of related literatures. On the basis of the discussions on the findings, the investigator mentioned some of the educational implications of the findings. The investigator observed that in spite of being an important subject, our Government has not been till date introduced computer education as a compulsory subject for all levels of education. So, proper initiatives of Government should be taken up. The study revealed moderate or average level of perception of students towards computer education and that is why innovative ways should be taken to create high level of perception. The present scenario of computer education in the colleges would enable Government to take proper steps to develop infrastructural facilities for providing computer education. The colleges would also be able to provide support services for students regarding taking up of vocations after completing courses on computer education. The study interestingly showed more number of female students’ positive attitude towards computer education as well the same on the part of the rural college students. So, it would be helpful to take up initiatives for developing positive attitude among all students irrespective of gender and locality.

6.2 Major findings of the study

The investigator discussed the findings of the study according to different objectives. On the basis of the findings, the major findings were concluded as follows.

1. It was found that out of the total students, large number of students showed average level of perception towards computer education.
2. The percentage of male students showing average or moderate level of perception towards computer education was more than other levels.

3. The percentage of students irrespective of gender showed average or moderate level of perception.

4. The number and percentage of total students regarding gender were more in average or moderate level of perception.

5. It was found that among all the levels, the percentage of urban students showing average level of perception towards computer education was more.

6. It was found that among all the levels, the percentage of rural students showing average level of perception towards computer education was more.

7. The number and percentage of total students regarding locality were found more in average or moderate level of perception.

8. There existed no significant difference in the levels of perception of college students towards computer education.

9. The levels of attitude of students were divided as ‘positive’ and ‘negative’. The Mean score of students in positive attitude level was more than in negative attitude level.

10. It was found that the number of students in the positive attitude level was more than the students in the negative attitude level in total.
11. The number of male students showing negative attitude was more than those showing positive attitude.

12. The number of female students showing positive attitude was more than those showing negative attitude.

13. The number of students of urban colleges showing positive attitude was more than those showing negative attitude.

14. The number of students of rural colleges showing positive attitude was more than those showing negative attitude.

15. The study showed no significant difference in attitude between male and female college students towards computer education.

16. The study showed no significant difference in attitude between the students of rural and urban colleges towards computer education.

6.3 Conclusion

The quality of a nation depends on the quality of education it provides and the quality of education has an impact on the students. The future citizens of our country will be well educated if students get proper quality education. The needs and aspirations of students community is ever changing in scientific and technological societies. Thus, it is of utmost importance to introduce courses to suit such expectations of students with proper facilities.
Computer becomes an essential subject in today’s era of science and technology. The transition from mere chalk and talk learning to technology-based education is clearly evident in today’s system of learning. Everyone today is welcoming this type of learning and thus it likely to diminish the traditional form of learning in coming days. Our country has made great efforts to make our students benefitted with all the transformations of technology to build up a proper attitude towards it. Though, lots have been done in this line still it has to achieve the complete success. To make our society total techno-based, all should make efforts to pull out the proper attitude of students folk to avail with the best aids that science and technology have ever gave. If it happens, it will be able to march towards making the coming generations to rule over the world of science and technology.

Computer education is a subject to fulfill the present demands of vocations in the society. The future career of students regarding computer and its allied areas depend to a great extent on the quality of computer education being provided in educational institutions. Therefore, all the rural and urban colleges should try to introduce computer education as compulsory subject. Moreover, the facilities to provide computer education should be improved and trained and qualified teachers should be appointed. The course contents of computer education should be revised from time to time. It should not be too large for students to handle.

Numerous studies have been conducted in last few years regarding the issue of gender difference in computer use, attitudes, and access to computer education. All these give a ground to think again and again why there are inequalities in the
access and participation in a subject like ‘Computer Science’ or ‘Computer Education’. Among these studies, most of the studies which discussed about women’s attitude towards computer technology in developing countries indicate that the negative attitudes of women towards computer have various consequences like limited participation of women in information economy, political, social and cultural spheres of life etc. Though the present study showed girls’ positive attitude towards computer education along with average or moderate perception, still there are lot more undiscovered levels of education where girls comparatively show less participation or negative attitude towards computer or computer education.

Moreover, the issues of difference between the students of rural and urban areas and between public and private institutions also catch our eyes while discussing the difference in attitudes towards Computer Education. Today’s Governments take it as a major priority to introduce information and communication technology for educational reform. As a result, computers are being introduced in almost every sphere of education today and recently, numerous new instructional tools have emerged to enter in basic computer labs such as laptops, tablet computer, net books and so on. Rural Government institutions are generally face financial constrains and so do not possess the capacity to provide minimum technological facilities for students and teachers. The teachers of such institutions also lack the ICT skills and knowledge to integrate technology into instruction as knowledge of computer is not mandatory for them to enter in schools or colleges as teachers of any subject except Computer Science or Computer Education. It will be
hardly possible to view a teacher of rural public school to deliver lecture to students by using projectors, laptops etc, though the environment is now being changed to a great extent because of Governments’ initiatives to introduce such facilities to all the institutions irrespective of locality. Because, the teachers of those schools were previously insufficiently trained in the use of technology and therefore, even though the State and Central Governments supply computers to the public schools irrespective of rural and urban areas, very few of them made its actual use. Due to the increasing tendency to admit the students in privately run schools and colleges, the public institutions of today are running with the children belonging to lower middle class who do not have the required capacities to supply computers for the wards. As a result, students are not well versed with computer in the daily affairs and as students do not get those facilities properly at schools or colleges, students do not feel its need. This affects in building up proper attitude towards a subject like Computer Science or Computer Education whatever it is.

The present study has shown college students’ positive attitude towards computer education. Students irrespective of gender and locality showed positive attitude in totality, though the number of female students showing positive attitude towards computer education was more than male students whose number in positive level was less than those showing negative level of attitude. But, regarding perception, both male and female students showed average level of perception than other levels and the same result was found regarding the students of the rural and urban colleges. But, there is a long way to go in enrolling more numbers of students
in Computer Education as well as creating high level of perception and positive attitude towards it irrespective of gender and locality.

Computer education has a great prospect in today’s society. The computer competencies of students are increasing day by day. Thus, proper planning and policies are needed to help in students’ progress. The Government should make efforts to provide all helps and suggestions to chalk out proper plans and programmes of Computer Education at all levels of education. A mass awareness should be created towards Computer Education for better benefit of our students to go hand in hand in this era of science and technology.

6.4 General suggestions

The various universities of India provide affiliations to colleges and with the progress of higher education, developments have been observed in the education of the colleges. According to the UGC Annual Report 2016-17, by the end of XI plan, there were 35,539 colleges in India. But, during the end of XII plan, it increased up to 42338, thus observed the increase of 19.13% in the number of colleges. On the other hand, the total enrolment during 2016-17 in universities and colleges of Assam were 5, 37,377. Out of it, 2, 69,690 were girls and 2, 67687 were boys. But, against those enrolments, the numbers of students in computer education are very few.

The different findings of the present study showed the levels of perception and attitude of college students along with difference in perception and attitude
between male and female students as well as students of rural and urban colleges towards Computer Education. Keeping in mind the above discussion, the investigator made an attempt to provide the following suggestions for enhancing proper perception and attitude of students towards computer education.

1. **Computer education as a compulsory subject**

   Computer education is being recognized as one of the subjects that gaining importance in the era of science and technological explosions. But, inspite of its popularity, very few educational institutions have introduced this subject till date. So, it is imperative that the various educational institutions should introduce computer education as a compulsory subject for all the students irrespective of all the streams. Moreover, there should be variety of courses as per the needs and expectations of the students.

2. **Improvement of infrastructural facilities**

   Introducing computer education in the colleges need proper facilities to properly execute it. But, while visiting the sample colleges for collecting data for the present study, it was revealed that the colleges were far behind from some of the facilities that could meet students’ needs in pursuing computer education. Therefore, the infrastructural facilities of the educational institutions to provide computer education should be improved. There should be proper seating arrangements, sufficient number of computers and other aids etc for students to pursue computer education properly.
3. **Qualified and trained teachers’ appointment**

   Teachers or instructors with good academic and professional qualification to teach students should be employed. The colleges should make proper arrangements for the training of teachers and instructors. Most of the colleges have the shortage of teacher against the ratio of students. Therefore, it is a matter of great concern that there should be sufficient number of teachers recruited for providing Computer Education.

4. **Using improved methods of teaching**

   The methods of teaching of the teachers and instructors should not be strictly traditional. They should use modern, new and up-to-date methods to make students active and sustain their attention more. The teachers and instructors of computer education moreover should have enough skill to use the technological gadgets used in teaching computer education.

5. **Improving service conditions of computer instructors/ teachers**

   The service conditions of the teachers of computer education should be improved. Government should keep an eye on the salary and other service benefits of them so that they can enjoy secure and guaranteed future in their present job. There should be required number of teachers or instructors depending on the enrollment of students in computer course.
6. Revising courses of computer education

Efforts should be made to revise the course contents of computer education. They should not be too large to make students over-burdened. Moreover, all the up-to-date contents as per the demand of time should be incorporated in the syllabus. It was revealed during the visits to the sample colleges that most of the colleges were offering computer education by including some basic contents like Microsoft-Word, Tally, Microsoft-Excel etc and not so many colleges introduced post graduate courses on computer education. Thus, the improved and recent additions in the world of computer should be there in students’ courses.

7. Medium of instruction available also in vernacular medium

The medium of instruction play a great role in students’ success. Generally, in the degree level it was revealed form the field study that the courses were available in English, which came out to be a difficulty to pursue for many students coming from vernacular medium. Thus, the course contents of computer education should be available both in English and vernacular languages.

8. Free computer education to poor and needy students

The educational institutions in order to motivate students more towards computer education should take some initiatives to provide free education to those students who cannot afford the costs of computer courses. Besides running the Government-certified courses by the colleges, they should also take up institutional venture to offer self-financed courses on computer.
9. **Awareness drive to motivate parents about computer education**

Many parents still far from know the benefits of subjects like computer education in today’s era of science and technology for which the colleges are not getting that much of students in computer education. The educational institutions should take up awareness programmes therefore to motivate the parents of students so that they could know the benefits of taking computer education as a subject and enroll their children in such courses.

10. **More funds for computer education by Government**

Most of the colleges are running self-financed courses of computer education. The Government for smooth functioning of computer education should provide funds to the educational institutions separately. Moreover, separate funds for developing ICT facilities in the institutions should be given.

11. **Proper inspection to the institutions providing computer education**

Many of the times, due to the lack of proper inspection of Government, the problems faced by the educational institutions in providing courses like Computer Science or Computer Education are not coming to the forefront. So, Government should made proper inspections in specific duration of time so that the problems faced by the schools, colleges etc in providing computer education will come out and side by side Government would take proper initiatives to solve them.
12. Chalking out improved plans and programmes of computer education

Government by the help of educationists, scientists, social workers, students etc should chalk out proper programmes and policies of computer education. Such programmes and policies should be revised from time to time. Moreover, Government should provide free computer education to students of below poverty line, girls, and students of backward classes.

13. Improved service conditions of the teachers

The teachers or instructors of computer education should be improved keeping in mind the salary and other benefits, because it will be helpful for the colleges to appoint qualified and trained teachers. As most of the colleges are running self-financed courses, the Government should keep an eye over the service conditions of computer teachers. The job satisfaction of the teachers should be the priority to provide quality education to students.

14. Appointing more teachers

While visiting the colleges, the investigator discovered that most of the colleges had single computer instructor or teacher to teach the students. The single teacher had to teach students all the courses. Some of the colleges had more enrollments of students in computer courses. Therefore, the colleges should appoint at least two teachers or instructors to meet the demands of students.
6.5 Suggestions for further researches

Research on college students’ perception and attitude towards computer education in the Nagaon district of Assam is said to be a neglected area. Only a few studies were conducted in Assam, which the investigator found from review of related literatures. Therefore, the investigator found scope of conducting research in this particular field. Thus, investigator keeping in view of the present study identified a number of issues relating to the same. The further studies regarding students’ perception and attitude towards computer education were suggested as below.

1. Further studies can be conducted on a large sample of students covering larger area i.e., more than one district.

2. The present study was conducted on students of college level only. So, comparative studies can be conducted on students’ perception and attitude towards computer education among students of various levels namely secondary school students, primary level students etc.

3. There is a scope for conducting studies on various policies and programmes of Government and non-Government agencies on computer education.

4. There are various factors affecting students’ computer perception and attitude. Thus, there is a scope for conducting studies on impact of various factors on perception and attitude of students towards computer education.
5. Parental computer attitude has a great bearing on students’ attitude towards the same. Studies can be conducted on relation between parental attitude and students’ attitude or impact of parental attitude on students’ attitude towards computer education.

6. Computer education has its own history in our country as well as in the state. Therefore, a study can be undertaken on history of computer education in India as well in Assam at various levels of education namely school, college etc.

7. Computer education faces some problems while providing it in any level of education. So, further studies can be taken up regarding problems of computer education in India and in Assam.

8. There is the scope to conduct studies regarding the correlation between students’ perception and attitude towards computer education.

9. Studies can also be conducted on perception and attitude of students of vocational education, technical education, engineering education etc towards computer education.

10. Moreover, studies can also be conducted regarding the correlation between teachers’ attitude and students’ attitude towards computer education.