CHAPTER – V

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After carrying an indepth survey on the progress of computer education in both private and government schools of Assam, it has been found that the desired goal remains short of the expectations, particularly in the institutions run by the government.

The major findings, suggestions and the measures to be taken up in order to overcome the deficiencies observed, have been incorporated in this concluding chapter.

5.1 Scenario of computer education in the government schools

It is to be regretted that, inspite of funding and all other infrastructural facilities provided by the North Eastern Council, in a collaborative venture with the Board of Secondary Education, Assam, nothing fruitful or long-lasting evolved from the course of computer education imparted to the students of government schools.

From the survey it was found that, initially when computer education was introduced, the students showed a keen interest, which was reflected in the high enrolment for computer education course. The teacher too displays a similar interest in the new course of study. This could be seen from the fact that teachers coming from diverse disciplines came forward to receive training in computer education provided by North Eastern Council. These teachers had no formal degree in the subject to teach computer to the students, as no teachers were appointed by the Assam government to impart computer education to the students.
However, over the years it is observed that the initial enthusiasm on the part of the students is on the wane as reflected in the total absence of students from the computer course.

This can be attributed to the disillusionment of the students as their expectation remained unfulfilled and proper facilities were not provided. Hence they preferred to take up other subjects in lieu of computers, despite the tremendous importance given to the latter, in the context of the present day living. The reasons for this lack of motivation towards computer education in the Government Secondary Schools of Assam would be attributed to the following facts.

5.1.1 Infrastructural facilities

The basic amenities required to run a computer training programme are proper electrification, a dust free room, provision for uninterrupted power supply etc. which are not provided in government schools in Assam, whether rural or urban. The conditions in rural areas are even more miserable.

From the survey it is found that today, though many government schools have computers, yet most of them are out of order. The authority had done everything to procure computers but little attention was given for its maintenance. As a result the computers are not updated or maintained properly.
5.1.2 Faculty

The government schools do not have trained teachers to teach computers in school. In fact they are not specifically appointed to teach computers. Some selected subject teachers of the school are trained by the North Eastern Council, for imparting computer education as well. So they cannot fulfill the aspirations of the students as experts on the subject.

Moreover, the subject teachers were overburdened by having to teach computer besides their own subject. This proved to be an additional workload. They are also not given any additional incentives for the same. Hence teachers are half-hearted in their attitude and are found to be reluctant to teach. Also because of continued disuse, the computers in the schools became unoperable leading to frustrations and weaning of interest in the students in taking up a computer course.

This has caused a great harm to the student community, especially those belonging to middle and lower middle class families, who generally study in the government schools and cannot afford private computer education. Thus when rapid changes are taking place in the world of technology, the students are deprived of the basic knowledge about computers.
5.1.3 Insufficient fund

To run a computer, school authority requires a recurring expenditure for its annual maintenance contract, system upgradation, training for faculties etc. But, there is no scope for it as no regular fund is allocated to any of the government schools and there is no scope for the school authority for resource generations. The school authorities also could not direct all the attention towards furthering computer education, since all other matters of the school regarding finance had to be looked up, hence they could not pay more attention to it, nor can they provide training for the teachers or the facilities required for the computer course.

All these factors have contributed to the lack of motivation among the students to learn computers.

Suggestions

As remedial measure it may be suggested that authority should proceed systematically keeping in mind the existing infrastructure in the schools and the requirements needed for proper execution of the course. These may be as follows –

(a) Appointment of qualified computer teachers in the government schools as per the norms set by the Board of Secondary Education, Assam.
(b) Provision for proper maintenance of the computers by the school authorities.

(c) Arrangement for power supply and other related logistics for smooth functioning of the course.

(d) Schools may set up a monitoring cell/committee of like-minded teachers with positive outlook to supervise the execution of the course.

(e) Lectures and visit of reputed computer professionals to discuss the prospects of computer education in today's world will help to motivate the students as well as the school authorities to take necessary steps.

(f) A minimum fee could be taken from the students to meet the incidental expenses related to the course.

5.2 Students attitude towards computer education

From the study it is found that, students enjoy working with the computers and do not lack confidence in their ability to perform any challenging or difficult task. Also students' belief and understanding regarding computer as a tool to work effectively in different situation is positive.

However, there is some amount of anxiety associated with the use of computers. This may probably be due to the fact that, as it is a
completely new field for the students to study, they are not adequately exposed to the use of computer as a learning media.

It is also found that, apart from class-room use of computer as a subject the students are not exposed to any kind of teaching through computer. Moreover, there is hardly any opportunity for the students to use computer for other purposes in day to day life, like the students in advanced countries do.

Keeping in view, the positive mind set of the students towards computer education, if proper facilities are provided to the students they could be brought at par with the students of the advanced countries.

5.3 Teachers attitude towards computer education

From the study it is found that though the teachers are confident about their knowledge of the subject, yet they are not devoid of anxiety. This may be because of general phobia associated with the new technology.

Like the students, the teachers' score is seen to be lowest with regard to the use of computers. This is a completely new field for the teachers also in this part of the country and hence they are also not adequately exposed to the use of computers as a teaching media.
5.4 Gender difference in attitude towards computer education

From the study it is found that girls have a positive inclination to computer education. They perceive computers as being more user friendly, and express less anxiety about the use of computers.

In the earlier studies it was found that the boys appear to have significantly more positive attitude towards computers than the girls. Also boys had superior performance compared to those of girls of same grade, and were found to be more pragmatic in terms of acceptance of technology than the girls.

But the scene appear to be changing in the present time. The girls are in no way lagging behind their male counterparts.

5.5 Gender difference in teachers attitude towards computer education

From the study it is found that there is no significant difference between the male teachers and the female teachers. They have similar attitude towards computer education.

5.6 Medium difference in attitude and outcome of achievement test of English medium and Assamese medium students

From the study, it is found that English medium students were found to display higher level of confidence, a sense of competence in their
approach to and use of computers than the Assamese medium students.

In terms of result of the achievement test also, there is a significant difference between the performance of the students of Assamese and English medium students. The achievement of students studying in English medium is higher than the Assamese medium students.

The deficiency of the students belonging to the Assamese medium may be attributed to a number of facts.

(a) Non-availability of proper text books in the vernacular medium. Only one text book written in Assamese and brought out by the Board of Secondary Education in Assam.

(b) Likewise, Assamese medium students suffer in the area of library facilities.

From the study it is found that the Assamese medium students have problem in following instruction given by the teachers. This is indeed a cause of grave concern. This may probably be due to the fact that most teachers have received their training in the English medium. Hence there is a possibility that they may falter when it comes to delivering the explanation in Assamese, which will adversely affect the students at the receiving end.
Under the circumstances mentioned above the school authorities would do well to appoint such computer teacher who are well versed in the Assamese language to teach the Assamese medium students.

Also, in order to bring the Assamese medium students at the same level with the English medium students, the school authorities may take steps to encourage and motivate computer professionals well versed in the Assamese language to write books on computers in Assamese, to make computer education more meaningful to the students.

This will also help in augmenting library and reference facilities for the Assamese medium students.

5.7 Attitude of teachers and students towards computer education

From the study it was found that regarding the attitude of students and teachers towards computer education, there is no significant difference between the teachers and the students as two different groups, except in the ‘use’ component.

Here the teachers appear to have a more positive attitude towards it. This could probably be due to the fact that the teachers enjoy more freedom and advantage in the use of computers, whereas the students’ knowledge mainly remains at theoretical level.
5.8 Students' experience with computer education

The overall findings of this survey suggested a positive attitude and outlook on the part of the students, with regard to the computer education received in their respective schools. With an eye to the future, the majority of the students feel that this computer knowledge received at the school level will be of great use in the long run.

From the study it is observed that, realizing the importance of computer education in today's world, some school authorities have made computer education compulsory so that knowledge of computer is available to all and that no students will be at a disadvantage in the later part of their career. This is quite encouraging.

Also, it is interesting to note that some students have suggested a revamping of the traditional modes of teaching by introducing computers in teaching which they think will make their education more exciting and interesting.

A higher percentage of the students appear to be satisfied with the type and number of computer test they are required to appear in. However, the students are not satisfied with just one practical class per week.

The school authorities should arrange for more practical classes, so that the students would not depend on private tuition to make up for their practical training.
5.9 Teachers' views on computer education

Several positive findings emerged from the study. It is found that majority of the teachers have recognised the important role that computer play in today's society. The teachers engaged in computer teaching feel that introduction of computers in the class-room is extremely important. According to them, computer education in schools would provide a strong foundation to the students to cope with the academic and professional needs in future.

Secondly, the emphasis by the teacher on improved inservice training reflects their eagerness for their professional development. This is a healthy trend as it shows the teachers' desire to keep themselves at par with the current developments in computer education.

They also stress on making provision for more computers in the schools to facilitate more hands on practice among the students and also to attract them towards computer as a subject.

They also urged for clear cut instruction on the syllabus regarding the content to be followed, and also allotment of more computer classes in the school routing to give students sufficient time for completing the course. This reflect the teachers sense of involvement with the objectives of computer education.

It has been encouraging to note that all the schools surveyed have been able to fulfill and sustain the norms set by the Board of
Secondary Education, Assam (SEBA), with regard to the imparting of computer education at the school level.

However certain other points have also come out of the study which evoke concern.

(a) There is a frequent change of computer teachers in the school. For this the students suffer the most, because the teacher-student relationship which takes time to develop gets interrupted by such changes. This results in loss of interest in the subject on the part of the students.

(b) Some teachers possess higher qualification in computer education than the norms set by the Board of Secondary Education, Assam. For example during the survey two teachers were found possessing the B.E. degree in Computer Science and the others had general qualification M.Sc. in Physics with two years diploma in Computer Application. When asked, those teachers clearly confessed that their present jobs are only stop gap arrangements until some better positions are attained.

(c) From the study it has also been found that taking tuition in computer science has become an accepted norm.

(d) Negative attitude of the school authority for inservice training had not only deprived the students of better instruction but also affected the teachers' professional development.
The teachers also lose in the process as they are deprived of the inservice training which would have enhanced their qualification.

The growing tendency of the students to take tuition in computer education can be attributed to several factors –

Firstly, parents of students who do not have personal computers at home feel that tuition would give their wards an opportunity to have on hands training on the computer under the supervision of the teachers at home (revealed by the parents when asked, during the survey informally).

However, this attitude indirectly encourages the teacher to become tuition minded, as it brings monetary gain to him. In the process his/her commitment and involvement in the class-room may be affected.

In order to check such negative tendencies, it is imperative on the part of the school authority to improve the computer hardware facilities, arrange for more practical classes and finally to have open interaction with the parents, to know their problems and thereby take necessary steps to solve their problems.

The school authorities should ensure that proper facilities are made available to the teachers, in terms of training facilities and exposure to recent developments in the subject.
5.10 Sex difference in achievement test result of the students of class VIII and IX

The score obtained by the students of class VIII reveal that there is no sex difference in computer achievement test between boys and girls. However it is observed that in case of the students of class IX, the girl students performed better than the boy students in achievement test. This may be due to the fact that the availability of computer in most homes of the students of private schools these days has led to their easy access right from the school level, regardless of the sex differences. In this regard, it is seen that girls' handling and use of the computers is also equal with that of the boys.

Parental encouragement towards the study and use of computer is also a major factor in computer achievement. Parents wish their female children to venture into this field as much as they would like their male children to excel (study conducted by Shashani L., 1993). Perhaps because of similar reasons the girl students in our sample excelled in computer science test.

5.11 Correlation between computer achievement and students attitude towards computer

From the study it is found that there is a fairly high positive correlation between the attitude of students and achievement test scores towards computer science.
5.12 Conclusion

The overall findings of the study reveal certain positive as well as certain negative aspects of Computer Education in Assam. The following positive points may be highlighted –

(a) There is a positive attitude towards computer education among both the students and the teachers.

(b) Girls have a more positive attitude towards computer education than the boys.

(c) Although no sex difference was found among the students of class VIII in computer achievement, it has been observed that class IX girls have performed better than their male counterparts. This is one step towards bridging the gender gap in technology.

However, the study also has revealed some serious drawbacks of computer education in Assam. The state of computer education in the government schools is very pathetic. Since a majority of our students study in the government run schools, one can easily imagine the future of the students passing out of these schools. This is indeed a serious disparity which is creating two categories of students – computer literate and computer illiterate, with related advantages and disadvantages.

This has also been recognized by the government of Assam. In its fresh bid to revamp the computer education in the government
schools, the government of Assam has drawn an ambitious plan to introduce computer education in two hundred high schools (200) from classes VIII to XII. It is proposed that each school will have a number of computers with internet connections. This is expected to be a public-private collaborative effort in the line of the systems followed in the states of Karnataka and Andhra Pradesh (The Assam Tribune, Vol. 65, No. 32, Monday, February 3, 2003).

If this project materializes, the above scheme will definitely take care of the existing situation in the government schools regarding computer education.

Another cause of concern is that among the private schools, the students of English private schools have demonstrated a more positive attitude towards computer education. They have also scored higher in achievement tests. A few suggestions have been made to alleviate the situation in section 5.6 of this chapter. If proper steps are taken to incorporate the same, the situation may be changed for the better.

Thus it is hoped that the findings of the present work will throw significant light on the nature and functioning of the computer course in the secondary schools of Assam, with implication for further improvement of the system.