CHAPTER - V
MAIN FINDINGS, EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

In the previous chapter, the analysis and interpretation of the data has been presented. This chapter is devoted to the main findings, educational implications and suggestions for further research.

5.1 MAIN FINDINGS

The findings of the present study have been presented under five major sections. **Section-I** deals with the main findings related to the views of Head Teachers for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. **Section-II** deals with the main findings related to the views of Teachers for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. **Section-III** deals with the main findings related to the views of Students for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. **Section-IV** deals with the main findings related to the composite scenario based on the views of Head Teachers, Teachers and Students for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. **Section-V** deals with the main findings related to the Composite scenario (irrespective of academic sessions i.e., 2010-11, 2011-12 and 2012-13) based on the views of Head Teachers and Teachers regarding different aspects of CAL programme (under SSA, at elementary school level) have been presented.

SECTION- I

This section deals with the main findings related to the views of Head Teachers for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12
(Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. The main findings of this section regarding CAL aspects wise are as follows:

(A) **Infrastructural facilities available in schools**-

- Out of 24 sample schools, Head Teachers of 19 (79.2%) schools had indicated that there were adequate infrastructural facilities in the schools while 05 (20.8%) Head Teachers of schools had indicated about inadequate infrastructural facilities. Therefore, it is evident that in case of majority of the schools, the infrastructural facilities were adequate during academic session 2010-11.
- Out of 24 sample schools, Head Teachers of 18 (75%) schools had indicated that there were adequate infrastructural facilities in the schools while 06 (25%) Head Teachers of schools had indicated about inadequate infrastructural facilities. Therefore, it is evident that in case of majority of the schools, the infrastructural facilities were adequate during academic session 2011-12.
- Out of 24 sample schools, Head Teachers of 20 (83.3%) schools had indicated that there were adequate infrastructural facilities in the schools while 04 (16.7%) Head Teachers of schools had indicated about inadequate infrastructural facilities. Therefore, it is evident that in case of majority of the schools, the infrastructural facilities were adequate during academic session 2012-13.

(B) **Availability of number of computers in working order in schools**-

- Out of 24 sample schools, Head Teachers of 16 (66.7%) schools had indicated that there were adequate numbers of computers in working order while 08 (33.3%) Head Teachers of schools had indicated about inadequate number of computers in working order. Therefore, it is evident that in case of majority of the schools, the numbers of computers in working orders were adequate during academic session 2010-11.
- Out of 24 sample schools, Head Teachers of 19 (79.2%) schools had indicated that there were adequate numbers of computers in working order while 05 (20.8%) Head Teachers of schools had indicated about inadequate number of
computers in working order. Therefore, it is evident that in case of majority of the schools, the numbers of computers in working orders were adequate during academic session 2011-12.

- Out of 24 sample schools, Head Teachers of 20 (83.3%) schools had indicated that there were adequate numbers of computers in working order while 04 (16.7%) Head Teachers of schools had indicated about inadequate number of computers in working order. Therefore, it is evident that in case of majority of the schools, the numbers of computers in working orders were adequate during academic session 2012-13.

(C) Availability of Accessories / equipments related to computers in schools –

- Out of 24 sample schools, Head Teachers of 15 (62.5%) had indicated that there were adequate Accessories / equipments while 09 (37.5%) Head Teachers of schools had indicated about inadequate Accessories / equipments related to CAL. Therefore, it is evident that in case of majority of the schools, the availability of Accessories / equipments related to Computer Aided Learning Programme (CAL) was adequate during academic session 2010-11.

- Out of 24 sample schools, Head Teachers of 13 (54.2%) had indicated that there were adequate Accessories / equipments while 11 (45.8%) Head Teachers of schools had indicated about inadequate Accessories / equipments related to CAL. Therefore, it is evident that in case of majority of the schools, the availability of Accessories / equipments related to Computer Aided Learning Programme (CAL) was adequate during academic session 2011-12.

- Out of 24 sample schools, Head Teachers of 15 (62.5%) had indicated that there were adequate Accessories / equipments while 09 (37.5%) Head Teachers of schools had indicated about inadequate Accessories / equipments related to CAL. Therefore, it is evident that in case of majority of the schools, the availability of Accessories / equipments related to Computer Aided Learning Programme (CAL) was adequate during academic session 2012-13.

(D) Availability of teacher(s), in position, having working knowledge of computers in schools –

- Out of 24 sample schools, Head Teachers of 15 (62.5%) had indicated that there was/ were adequate teacher(s), in position, having working knowledge of
computers while 09 (37.5%) Head Teachers of schools had indicated about inadequate teacher(s), in position, having working knowledge of computers. Therefore, it is evident that in case of majority of the schools, the availability of teacher(s), in position, having working knowledge of computers was adequate during academic session 2010-11.

- Out of 24 sample schools, Head Teachers of 15 (62.5%) had indicated that there was/ were adequate teacher(s), in position, having working knowledge of computers while 09 (37.5%) Head Teachers of schools had indicated about inadequate teacher(s), in position, having working knowledge of computers. Therefore, it is evident that in case of majority of the schools, the availability of teacher(s), in position, having working knowledge of computers was adequate during academic session 2011-12.

- Out of 24 sample schools, Head Teachers of 14 (58.3%) had indicated that there was/ were adequate teacher(s), in position, having working knowledge of computers while 10 (41.7%) Head Teachers of schools had indicated about inadequate teacher(s), in position, having working knowledge of computers. Therefore, it is evident that in case of majority of the schools, the availability of teacher(s), in position, having working knowledge of computers was adequate during academic session 2012-13.

(E) **Provision of CAL period in time table in schools** –

- Out of 24 sample schools, Head Teachers of 12 (50%) had indicated that there was a provision of CAL period in time table while 12 (50%) Head Teachers of schools had indicated about no provision of CAL period in time table. Therefore, it is evident that equal majority of the schools, were had adequate provision of period in time table in school related to Computer Aided Learning Programme (CAL) during academic session 2010-11.

- Out of 24 sample schools, Head Teachers of 14 (58.3%) had indicated that there was a provision of CAL period in time table while 10 (41.7%) Head Teachers of schools had indicated about no provision of CAL period in time table. Therefore, it is evident that majority of the schools, were had adequate provision of period in time table in school related to Computer Aided Learning Programme (CAL) during academic session 2011-12.
Out of 24 sample schools, Head Teachers of 15 (62.5%) had indicated that there was a provision of CAL period in time table while 09 (37.5%) Head Teachers of schools had indicated about no provision of CAL period in time table. Therefore, it is evident that equal majority of the schools, were had adequate provision of period in time table in school related to Computer Aided Learning Programme (CAL) during academic session 2012-13.

(F) Regular Teaching Learning through CAL in schools –

Out of 24 sample schools, in 13 (54.2%) schools regular teaching learning through CAL was there while in 11 (45.8%) schools regular teaching learning through CAL was not indicated by the Head Teacher. It is evident that in majority of sample schools, regular teaching learning through CAL was indicated by the Head Teacher during academic session 2010-11.

Out of 24 sample schools, in 10 (41.7%) schools regular teaching learning through CAL was there while in 14 (58.3%) schools regular teaching learning through CAL was not indicated by the Head Teachers. It is evident that in majority of sample schools, regular teaching learning through CAL was not indicated by the Head Teachers during academic session 2011-12.

Out of 24 sample schools, in 12 (50%) schools regular teaching learning through CAL was there while in 12 (50%) schools regular teaching learning through CAL was not indicated by the Head Teachers. It is evident that in equal majority of sample schools, regular teaching learning through CAL was not indicated by the Head Teachers during academic session 2012-13.

(G) Timely supply of CAL Grant in schools –

Out of 24 sample schools, Head Teachers of 20 (83.3%) schools had indicated that they had received/receiving grant within the stipulated period while 04 (16.7%) Head Teachers of schools had indicated about indicated that the CAL grant was not timely made available. It is evident that majority of the schools had received/receiving grant within the stipulated period related to Computer Aided Learning Programme (CAL) during academic session 2010-11.

Out of 24 sample schools, Head Teachers of 17 (70.9%) schools had indicated that they had received/receiving CAL grant within the stipulated period while
07 (29.1%) Head Teachers of schools had indicated that the CAL grant was not timely made available. It is evident that majority of the schools had received/receiving CAL grant within the stipulated period related to Computer Aided Learning Programme (CAL) during academic session 2011-12.

- Out of 24 sample schools, Head Teachers of 19 (79.2%) schools had indicated that they had received/receiving grant within the stipulated period while 05 (20.8%) Head Teachers of schools had indicated that the CAL grant was not timely made available. It is evident that majority of the schools had received/receiving grant within the stipulated period related to Computer Aided Learning Programme (CAL) during academic session 2012-13.

(H) Problems being faced by schools in implementation of CAL –

- Out of 24 sample schools, Head Teachers of 19 (79.2%) schools faced/were facing problems in implementation of CAL programme due to non-functioning of computers while 05 (20.8%) Head Teachers of schools had not faced any problem related to functioning of computers. It indicates that majority of the schools had problem(s) in implementation of CAL programme due to non-functioning of computers in schools during academic session 2010-11.

- Out of 24 sample schools, Head Teachers of 16 (66.7%) schools faced/were facing problems in implementation of CAL programme due to non-functioning of computers while 08 (33.3%) Head Teachers of schools had not faced any problem related to functioning of computers. It indicates that majority of the schools had problem(s) in implementation of CAL programme due to non-functioning of computers in schools during academic session 2011-12.

- Out of 24 sample schools, Head Teachers of 15 (62.5%) schools faced/were facing problems in implementation of CAL programme due to non-functioning of computers while 09 (37.5%) Head Teachers of schools had not faced any problem related to functioning of computers. It indicates that majority of the schools had faced/were facing problem(s) in implementation of CAL programme due to non-functioning of computers in schools during academic session 2012-13.
(I) Numbers of schools wherein the problems related to non-functioning of computer(s) solved/ not solved within 15 days-

- Out of 19 sample schools, Head Teachers of 07 (36.8%) schools had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 12 (63.2%) Head Teachers of schools indicated that such problems had not been solved /solved within 15 days and take more than one/two month(s) to solved/ solved problems related to non-functioning of computers. It indicates majority of the schools had problem(s) regarding non-functioning of computers in schools during academic session 2010-11.

- Out of 16 sample schools, Head Teachers of 07 (43.7%) schools had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 09 (56.3%) Head Teachers of schools indicated that such problems had not been solved /solved within 15 days and take more than one/two month(s) to solved/ solved problems related to non-functioning of computers. It indicates majority of the schools had problem(s) regarding non-functioning of computers in schools during academic session 2011-12.

- Out of 15 sample schools, Head Teachers of 04 (26.7%) schools had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 11 (73.3%) Head Teachers of schools indicated that such problems had not been solved /solved within 15 days and take more than one/two month(s) to solved/ solved problems related to non-functioning of computers. It indicates majority of the schools had problem(s) regarding non-functioning of computers in schools during academic session 2012-13.

SECTION- II

This section deals with the main findings related to the views of Teachers (having working knowledge of computer) for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. The main findings of this section regarding CAL aspects wise are as follows:
(A) Infrastructural facilities available in schools-

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 17 (70.8%) schools had indicated that there were adequate infrastructural facilities in the schools while 07 (29.2%) Teachers (having working knowledge of computer) of schools had indicated about inadequate infrastructural facilities. Therefore, it is evident that in case of majority of the schools, the infrastructural facilities were adequate during academic session 2010-11.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 16 (66.7%) schools had indicated that there were adequate infrastructural facilities in the schools while 08 (33.3%) Teachers (having working knowledge of computer) of schools had indicated about inadequate infrastructural facilities. Therefore, it is evident that in case of majority of the schools, the infrastructural facilities were adequate during academic session 2011-12.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 21 (87.5%) schools had indicated that there were adequate infrastructural facilities in the schools while 03 (12.5%) Teachers (having working knowledge of computer) of schools had indicated about inadequate infrastructural facilities. Therefore, it is evident that in case of majority of the schools, the infrastructural facilities were adequate during academic session 2012-13.

(B) Availability of number of computers in working order in schools-

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 17 (70.8%) schools had indicated that there were adequate numbers of computers in working order while 07 (29.2%) Teachers (having working knowledge of computer) of schools had indicated about inadequate number of computers in working order. Therefore, it is evident that in case of majority of the schools, the numbers of computers in working orders were adequate during academic session 2010-11.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 19 (79.2%) schools had indicated that there were adequate numbers of
computers in working order while 05 (20.8%) Teachers (having working knowledge of computer) of schools had indicated about inadequate number of computers in working order. Therefore, it is evident that in case of majority of the schools, the numbers of computers in working orders were adequate during academic session 2011-12.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 18 (75%) schools had indicated that there were adequate numbers of computers in working order while 06 (25%) Teachers (having working knowledge of computer) of schools had indicated about inadequate number of computers in working order. Therefore, it is evident that in case of majority of the schools, the numbers of computers in working orders were adequate during academic session 2012-13.

(C) **Availability of Accessories / equipments related to computers in schools** -

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 16 (66.7%) had indicated that there were adequate Accessories / equipments while 08 (33.3%) Teachers (having working knowledge of computer) of schools had indicated about inadequate Accessories / equipments related to CAL. Therefore, it is evident that in case of majority of the schools, the availability of Accessories / equipments related to Computer Aided Learning Programme (CAL) was adequate during academic session 2010-11.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 17 (70.9%) had indicated that there were adequate Accessories / equipments while 07 (29.1%) Teachers (having working knowledge of computer) of schools had indicated about inadequate Accessories / equipments related to CAL. Therefore, it is evident that in case of majority of the schools, the availability of Accessories / equipments related to Computer Aided Learning Programme (CAL) was adequate during academic session 2011-12.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 15 (62.5%) had indicated that there were adequate Accessories / equipments while 09 (37.5%) Teachers (having working knowledge of computer) of schools had indicated about inadequate Accessories / equipments related to CAL. Therefore, it is evident that in case of majority of the schools, the
availability of Accessories / equipments related to Computer Aided Learning Programme (CAL) was adequate during academic session 2012-13.

(D) Availability of teacher(s), in position, having working knowledge of computers in schools –

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 15 (62.5%) had indicated that there was/ were adequate teacher(s), in position, having working knowledge of computers while 09 (37.5%) Teachers (having working knowledge of computer) of schools had indicated about inadequate teacher(s), in position, having working knowledge of computers. Therefore, it is evident that in case of majority of the schools, the availability of teacher(s), in position, having working knowledge of computers was adequate during academic session 2010-11.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 14 (58.3%) had indicated that there was/ were adequate teacher(s), in position, having working knowledge of computers while 10 (41.7%) Teachers (having working knowledge of computer) of schools had indicated about inadequate teacher(s), in position, having working knowledge of computers. Therefore, it is evident that in case of majority of the schools, the availability of teacher(s), in position, having working knowledge of computers was adequate during academic session 2011-12.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 12 (50%) had indicated that there was/ were adequate teacher(s), in position, having working knowledge of computers while 12 (50%) Teachers (having working knowledge of computer) of schools had indicated about inadequate teacher(s), in position, having working knowledge of computers. Therefore, it is evident that in case of equal majority of the schools, the availability of teacher(s), in position, having working knowledge of computers was adequate during academic session 2012-13.

(E) Provision of CAL period in time table in schools –

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 12 (50%) had indicated that there was a provision of CAL period in time
table while 12 (50%) Teachers (having working knowledge of computer) of schools had indicated about no provision of CAL period in time table. Therefore, it is evident that equal majority of the schools, were had adequate provision of period in time table in school related to Computer Aided Learning Programme (CAL) during academic session 2010-11.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 14 (58.3%) had indicated that there was a provision of CAL period in time table while 10 (41.7%) Teachers (having working knowledge of computer) of schools had indicated about no provision of CAL period in time table. Therefore, it is evident that majority of the schools, were had adequate provision of period in time table in school related to Computer Aided Learning Programme (CAL) during academic session 2011-12.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 15 (62.5%) had indicated that there was a provision of CAL period in time table while 09 (37.5%) Teachers (having working knowledge of computer) of schools had indicated about no provision of CAL period in time table. Therefore, it is evident that majority of the schools, were had adequate provision of period in time table in school related to Computer Aided Learning Programme (CAL) during academic session 2012-13.

(F) Regular Teaching Learning through CAL in schools –

- Out of 24 sample schools, in 12 (50%) schools regular teaching learning through CAL was there while in 12 (50%) schools regular teaching learning through CAL was not indicated by the Teachers (having working knowledge of computer). It is evident that in equal majority of sample schools, regular teaching learning through CAL was indicated by the Teachers (having working knowledge of computer) during academic session 2010-11.

- Out of 24 sample schools, in 11 (45.8%) schools regular teaching learning through CAL was there while in 13 (54.2%) schools regular teaching learning through CAL was not indicated by the Teachers (having working knowledge of computer). It is evident that in majority of sample schools, regular teaching learning through CAL was not indicated by the Teachers (having working knowledge of computer) during academic session 2011-12.
Out of 24 sample schools, in 13 (54.2%) schools regular teaching learning through CAL was there while in 11 (45.8%) schools regular teaching learning through CAL was not indicated by the Teachers (having working knowledge of computer). It is evident that in majority of sample schools, regular teaching learning through CAL was indicated by the Teachers (having working knowledge of computer) during academic session 2012-13.

(G) Timely supply of CAL Grant in schools –

Out of 24 sample schools, Teachers (having working knowledge of computer) of 20 (83.3%) schools had indicated that they had received/receiving grant within the stipulated period while 04 (16.7%) Teachers (having working knowledge of computer) of schools had indicated about indicated that the CAL grant was not timely made available. It is evident that majority of the schools had received/receiving grant within the stipulated period related to Computer Aided Learning Programme (CAL) during academic session 2010-11.

Out of 24 sample schools, Teachers (having working knowledge of computer) of 16 (66.7%) schools had indicated that they had received/receiving CAL grant within the stipulated period while 08 (33.3%) Teachers (having working knowledge of computer) of schools had indicated that the CAL grant was not timely made available. It is evident that majority of the schools had received/receiving CAL grant within the stipulated period related to Computer Aided Learning Programme (CAL) during academic session 2011-12.

Out of 24 sample schools, Teachers (having working knowledge of computer) of 19 (79.2%) schools had indicated that they had received/receiving grant within the stipulated period while 05 (20.8%) Teachers (having working knowledge of computer) of schools had indicated that the CAL grant was not timely made available. It is evident that majority of the schools had received/receiving grant within the stipulated period related to Computer Aided Learning Programme (CAL) during academic session 2012-13.

(H) Problems being faced by schools in implementation of CAL –

Out of 24 sample schools, Teachers (having working knowledge of computer) of 18 (75%) schools faced/were facing problems in implementation of CAL
programme due to non-functioning of computers while 06 (25%) Teachers (having working knowledge of computer) of schools had not faced any problem related to functioning of computers. It indicates that majority of the schools had problem(s) in implementation of CAL programme due to non-functioning of computers in schools during academic session 2010-11.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 16 (66.7%) schools faced/ were facing problems in implementation of CAL programme due to non-functioning of computers while 08 (33.3%) Teachers (having working knowledge of computer) of schools had not faced any problem related to functioning of computers. It indicates that majority of the schools had problem(s) in implementation of CAL programme due to non-functioning of computers in schools during academic session 2011-12.

- Out of 24 sample schools, Teachers (having working knowledge of computer) of 15 (62.5%) schools faced/ were facing problems in implementation of CAL programme due to non-functioning of computers while 09 (37.5%) Teachers (having working knowledge of computer) of schools had not faced any problems related to functioning of computers. It indicates that majority of the schools had faced/ were facing problem(s) in implementation of CAL programme due to non-functioning of computers in schools during academic session 2012-13.

(I) Numbers of schools wherein the problems related to non-functioning of computer(s) solved/ not solved within 15 days-

- Out of 18 sample schools, Teachers (having working knowledge of computer) of 08 (44.4%) schools had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 10 (55.5%) Teachers (having working knowledge of computer) of schools indicated that such problems had not been solved /solved within 15 days and take more than one/two month(s) to solved/ solved problems related to non-functioning of computers. It indicates majority of the schools had problem(s) regarding non-functioning of computers in schools during academic session 2010-11.

- Out of 16 sample schools, Teachers (having working knowledge of computer) of 07 (43.7%) schools had indicated that problems related to non-functioning
of computer(s) were solved /being solved within 15 days while 09 (56.3%) Teachers (having working knowledge of computer) of schools indicated that such problems had not been solved /solved within 15 days and take more than one/two month(s) to solved/ solved problems related to non-functioning of computers. It indicates majority of the schools had problem(s) regarding non-functioning of computers in schools during academic session 2011-12.

- Out of 15 sample schools, Teachers (having working knowledge of computer) of 06 (40%) schools had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 09 (60%) Teachers (having working knowledge of computer) of schools indicated that such problems had not been solved /solved within 15 days and take more than one/two month(s) to solved/ solved problems related to non-functioning of computers. It indicates majority of the schools had problem(s) regarding non-functioning of computers in schools during academic session 2012-13.

SECTION- III

This section deals with the main findings related to the views of Students regarding different aspects of CAL programme for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) in the respective districts. The main findings of this section regarding CAL aspects wise are as follows:

(A) **Infrastructural facilities available in schools**-

- Out of 120 students of 24 sample schools, 76 (63.3%) students had indicated that there were adequate infrastructural facilities while 44 (36.7%) students had indicated about inadequate infrastructural facilities. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2010-11 indicated that there were adequate infrastructural facilities in their school.

- Out of 120 students of 24 sample schools, 75 (62.5%) students had indicated that there were adequate infrastructural facilities while 45 (37.5%) students had indicated about inadequate infrastructural facilities. Therefore, it is evident that majority of students of 24 sample schools of three districts of
academic session 2011-12 indicated that there were adequate infrastructural facilities in their school.

- Out of 120 students of 24 sample schools, 80 (66.7%) students had indicated that there were adequate infrastructural facilities while 40 (33.3%) students had indicated about inadequate infrastructural facilities. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2012-13 indicated that there were adequate infrastructural facilities in their school.

(B) Availability of number of computers in working order in schools-

- Out of 120 students of 24 sample schools, 75 (62.5%) students had indicated that there were adequate numbers of computers in working order while 45 (37.5%) students had indicated about inadequate numbers of computers in working order. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2010-11 indicated that there were adequate numbers of computers in working orders in their school.

- Out of 120 students of 24 sample schools, 85 (70.8%) students had indicated that there were adequate numbers of computers in working order while 35 (29.2%) students had indicated about inadequate numbers of computers in working order. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2011-12 indicated that there were adequate numbers of computers in working orders in their school.

- Out of 120 students of 24 sample schools, 85 (70.8%) students had indicated that there were adequate numbers of computers in working order while 35 (29.2%) students had indicated about inadequate numbers of computers in working order. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2012-13 indicated that there were adequate numbers of computers in working orders in their school.

(C) Availability of Accessories / equipments related to computers in schools -

- Out of 120 students of 24 sample schools, 75 (62.5%) students had indicated that there were adequate accessories / equipments while 45 (37.5%) students had indicated about adequate Accessories / equipments related to CAL.
Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2010-11 indicated that there were adequate numbers of accessories / equipments related to Computer Aided Learning Programme (CAL) in their school.

- Out of 120 students of 24 sample schools, 76 (63.3%) students had indicated that there were adequate accessories / equipments while 44 (36.7%) students had indicated about adequate Accessories / equipments related to CAL. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2011-12 indicated that there were adequate numbers of accessories / equipments related to Computer Aided Learning Programme (CAL) in their school.

- Out of 120 students of 24 sample schools, 79 (65.8%) students had indicated that there were adequate accessories / equipments while 41 (34.2%) students had indicated about adequate Accessories / equipments related to CAL. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2012-13 indicated that there were adequate numbers of accessories / equipments related to Computer Aided Learning Programme (CAL) in their school.

(D) Regular Teaching Learning through CAL in schools –

- Out of 120 students of 24 sample schools, 43 (35.8%) students indicated that there was regular teaching learning through CAL while 77 (64.2%) students responded that there was no regular teaching learning through CAL. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2010-11 indicated that there were inadequate regular teaching learning through CAL in their school.

- Out of 120 students of 24 sample schools, 53 (44.2%) students indicated that there was regular teaching learning through CAL while 67 (55.8%) students responded that there was no regular teaching learning through CAL. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2011-12 indicated that there were inadequate regular teaching learning through CAL in their school.

- Out of 120 students of 24 sample schools, 54 (45%) students indicated that
there was regular teaching learning through CAL while 66 (55%) students responded that there was no regular teaching learning through CAL. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2012-13 indicated that there were inadequate regular teaching learning through CAL in their school.

(E) **Problems being faced by students due to non-functioning of Computers –**

- Out of 120 students of 24 sample schools, 75 (62.5%) students faced/ were facing problems regarding functioning of computers of CAL programme while 45 (37.5%) students indicated that they had not faced any problem regarding functioning of computers. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2010-11 indicated that they were faced/ were facing problems regarding functioning of computers of CAL programme in their school.

- Out of 120 students of 24 sample schools, 84 (70%) students faced/ were facing problems regarding functioning of computers of CAL programme while 36 (30%) students indicated that they had not faced any problem regarding functioning of computers. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2011-12 indicated that they were faced/ were facing problems regarding functioning of computers of CAL programme in their school.

- Out of 120 students of 24 sample schools, 78 (65%) students faced/ were facing problems regarding functioning of computers of CAL programme while 42 (35%) students indicated that they had not faced any problem regarding functioning of computers. Therefore, it is evident that majority of students of 24 sample schools of three districts of academic session 2012-13 indicated that they were faced/ were facing problems regarding functioning of computers of CAL programme in their school.

(F) **Problems of students solved/ not solved within 15 days regarding non-functioning of computer –**

- Out of 75 students of 24 sample schools, 33 (44%) students had indicated that problems related to non-functioning of computer(s) were solved /being solved
within 15 days while 42 (56%) students indicated that such problems had not been solved /being solved within 15 days and such problems were attended after more than one/two month(s). On the basis of majority of students’ responses the problem(s) regarding non-functioning of computers in schools were not solved/ being solved within 15 days during academic session 2010-11.

- Out of 84 students of 24 sample schools, 35 (41.7%) students had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 49 (58.3%) students indicated that such problems had not been solved /being solved within 15 days and such problems were attended after more than one/two month(s). On the basis of majority of students’ responses the problem(s) regarding non-functioning of computers in schools were not solved/ being solved within 15 days during academic session 2011-12.

- Out of 84 students of 24 sample schools, 35 (41.7%) students had indicated that problems related to non-functioning of computer(s) were solved /being solved within 15 days while 49 (58.3%) students indicated that such problems had not been solved /being solved within 15 days and such problems were attended after more than one/two month(s). On the basis of majority of students’ responses the problem(s) regarding non-functioning of computers in schools were not solved/ being solved within 15 days during academic session 2012-13.

SECTION-IV

This section deals with the main findings related to the composite scenario based on the views of Head Teachers, Teachers and Students for the academic sessions 2010-11 (Bhiwani, Hisar, Ambala), 2011-12 (Kaithal, Sonipat, Jind) and 2012-13 (Rothak, Yamunanagar and Rewari) regarding different aspects of CAL programme in the respective districts. The main findings of this section respondent wise are as follows:

(A) Composite scenario of different aspects/activities related to Computer Aided Learning (CAL) Programme –

a(i) (as viewed by Head Teachers)

- In districts Bhiwani and Hisar the overall scenario of implementation of CAL programme in government schools (under SSA) was almost of the same level
whereas in case of district Ambala, it was quite satisfactory and going on very well during the academic session 2010-11.

- In districts Kaithal and Jind the overall scenario of implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Sonipat, it was quite satisfactory and going on very well during the academic session 2011-12.

- In districts Yamunanagar and Rewari the overall implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Rohtak, it was quite satisfactory and going on very well during the academic session 2012-13.

**a(ii) (as viewed by Teachers)**

- In districts Bhiwani and Hisar the overall scenario of implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Ambala, it was quite satisfactory and going on very well during the academic session 2010-11.

- In districts Kaithal and Jind the overall scenario of implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Sonipat, it was quite satisfactory and going on very well during the academic session 2011-12.

- In districts Yamunanagar and Rewari the overall implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Rohtak, it was quite satisfactory and going on very well during the academic session 2012-13.

**a(iii) (as viewed by Students)**

- In districts Bhiwani and Hisar the overall scenario of implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Ambala, it was quite satisfactory and going on very well during the academic session 2010-11.

- In districts Kaithal and Jind the overall scenario of implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Sonipat, it was quite satisfactory and going on very
well during the academic session 2011-12.

- In districts Yamunanagar and Rewari the overall implementation of CAL programme in government schools (under SSA) was almost of the same level whereas in case of district Rohtak, it was quite satisfactory and going on very well during the academic session 2012-13.

(B) Composite scenario of problems being faced by the respondents- Head Teachers, Teachers and Students related to Computer Aided Learning (CAL) Programme –

b(i) (as viewed by Head Teachers)

- In districts Bhiwani and Ambala the overall scenario of Problems being faced by schools in implementation of CAL due to non-functioning of computers programme in government schools (under SSA) was equally unsatisfactory almost of the same level whereas in case of district Hisar, it was quite higher and not going on very well during the academic session 2010-11.

- In districts Kaithal and Jind the overall scenario of Problems being faced by schools in implementation of CAL due to non-functioning of computers programme in government schools (under SSA) was equally unsatisfactory almost of the same level whereas in case of district Sonipat, it was quite higher and not going on very well during the academic session 2011-12.

- In districts Yamunanagar and Rewari the overall scenario of Problems being faced by schools in implementation of CAL due to non-functioning of computers programme in government schools (under SSA) was equally unsatisfactory almost of the same level whereas in case of district Rohtak, it was quite higher and not going on very well during the academic session 2012-13.

b(ii) (as viewed by Teachers)

- In districts Bhiwani and Ambala the overall scenario of Problems being faced by schools in implementation of CAL due to non-functioning of computers programme in government schools (under SSA) was equally unsatisfactory almost of the same level whereas in case of district Hisar, it was quite higher and not going on very well during the academic session 2010-11.

- In districts Kaithal and Jind the overall scenario of Problems being faced by
schools in implementation of CAL due to non-functioning of computers programme in government schools (under SSA) was equally un-satisfactory almost of the same level whereas in case of district Sonipat, it was quite higher and not going on very well during the academic session 2011-12.

- In districts Rohtak and Rewari the overall scenario of Problems being faced by schools in implementation of CAL due to non-functioning of computers programme in government schools (under SSA) was equally un-satisfactory almost of the same level whereas in case of district Yamunanagar, it was quite higher and not going on very well during the academic session 2012-13.

b(iii) (as viewed by Students)

- In all the three districts, Bhiwani, Hisar and Ambala the overall scenario of problems being faced by students due to non-functioning of computers in government schools (under SSA) was equally un-satisfactory almost of the same level and not going on well during the academic session 2010-11.

- In districts Kaithal and Sonipat the overall scenario of problems being faced by students due to non-functioning of computers programme in government schools (under SSA) was equally un-satisfactory almost of the same level whereas in case of district Jind, it was quite higher and not going on very well during the academic session 2011-12.

- In all three districts Rohtak, Yamunanagar and Rewari the overall scenario of problems being faced by students due to non-functioning of computers in government schools (under SSA) was equally un-satisfactory almost of the same level whereas in case of district Yamunanagar, it was quite higher and not going on very well during the academic session 2012-13.

SECTION-V

This section deals with the main findings related to the Composite scenario (irrespective of academic sessions i.e., 2010-11, 2011-12 and 2012-13) based on the views of Head Teachers and Teachers regarding different aspects of CAL programme (under SSA, at elementary school level). The main findings of this section are as follows:

- Sonipat district was found to be the 1st best performing district with the total
positive responses (in Yes) of respondents, including both Head teachers as well as Teachers, i.e. 57 (89.1%) in the implementation of Computer Aided Learning (CAL) Programme (irrespective of academic sessions-2010-11, 2011-12 and 2012-13) at Elementary school Level. Whereas Rohtak district was found to be the 2nd best performing district with the total positive responses (in Yes) of respondents, including both Head teachers as well as Teachers, i.e. 50 (78.1%) in the implementation of Computer Aided Learning (CAL) Programme (irrespective of academic sessions-2010-11, 2011-12 and 2012-13) at Elementary school level and Ambala district was found to be the 3rd best performing district with the total positive responses (in Yes) of respondents, including both Head teachers as well as Teachers, i.e. 47 (73.4%) in the implementation of Computer Aided Learning (CAL) (irrespective of academic sessions-2010-11, 2011-12 and 2012-13) Programme at Elementary school Level.

5.2 EDUCATIONAL IMPLICATIONS

The present research study was an attempt to evaluate Computer Aided Learning (CAL) programme in govt. schools of Haryana under Sarva Shiksha Abhiyan which is the national flagship programme of the country, having a clear time frame for Universal Elementary Education and a response to the demand for quality basic education all over the country. Sarva Shiksha Abhiyan (SSA) also provides an opportunity for promoting social justice through basic education and is also an effort for effectively involving the Panchayat Raj Institutions, School Management Committees, Parent-Teacher Associations, Mother Teacher Associations and other grass root level structures in the management of elementary schools.

Furthermore, this Computer Aided Learning (CAL) programme (of Sarva Shiksha Abhiyan) is an expression of political will for universal elementary education across the country with a partnership of Central, State and Local Governments. Sarva Shiksha Abhiyan also aimed at providing opportunity to the states to develop their own vision of Elementary Education and to implement the same.

Therefore, the present study has its implications for Educational Planners, Policy Makers, Educational Administrators, Principals/Heads of Schools, Teachers, Members of School Management Committees, Community Leaders, Voluntary
Organizations, Central and State Governments, State Project Directorates, Project Approval Board (PAB) of Ministry of Human Resource Development (MHRD), Government of India, Educationists, Researchers and different Academic Bodies associated with School Education and other bodies related to Elementary Education directly or indirectly in order to review their contribution, role and responsibilities in the organization, implementation and time to time assessment of outcomes of school education under Sarva Shiksha Abhiyan (SSA).

Beside this, the present study has its implications for the organizers and implementation officials/authorities of Computer Aided Learning (CAL) programme under Sarva Shiksha Abhiyan to see whether the main strategies of Sarva Shiksha Abhiyan have been effectively operationalized viz. institutional reforms, sustainable financing, community ownership, institutional capacity building, improvement in quality of education, community based monitoring with full transparency, accountability towards community, priority to education of girls, district elementary education plans.

Keeping in view the findings of the present study, the initiatives supposed to be taken by the Sarva Shiksha Abhiyan functionaries and authorities for the successful re-continuation of Computer Aided Learning (CAL) programme at Elementary School Level under SSA as this scheme has been discontinued w.e.f. academic session 2014-15 because no fundamental assist once/grant has been released /provided to State community, in under Haryana, for Computer Aided Learning (CAL) programme which was one of the components of Sarva Shiksha Abhiyan (SSA) in order to achieve the goal of Universalisation of Elementary Education (UEE) in the context of quality education with community involvement and Right of Children to Free and Compulsory Education (RTE) Act, 2009.

5.3 SUGGESTIONS FOR THE FURTHER RESEARCH

Generally, one of the outcomes of conducting any research study is to generate avenues for further researches with focused priority areas. The present study is entitled, “Evaluation of Computer Aided Learning (CAL) programme in Government Schools of Haryana”. Similar studies can be conducted in the State of Haryana and on other States of the country as well and also in different socio-cultural contexts.
The present study was based on a sample particularly drawn from limited geographical areas of nine districts of Haryana- Bhiwani, Hisar, Kaithal, Sonipat, Ambala, Jind, Rohtak, Yamunanagar and Rewari and was confined to 72 Government Upper Primary Schools only. A similar study can be carried out with larger sample and can also be carried out in the regions dominated by Socio-culturally disadvantaged sections of the society/educationally backward districts_BLOCKS of different states.

The present study was delimited to the Upper Primary Education (class 1st to 8th) only. A similar study can be also be conducted at the secondary school stage.

The present Study covers provisions of implementation of computer aided learning programme in government schools of Haryana under Sarva Shiksha Abhiyan (SSA). Similar studies can be also conducted in the context of component, Children with Special Needs (CWSN), Teaching Learning, Maintenance and Repair Grants also.