### CHAPTER V

**SUMMARY OF THE FINDINGS**

- Introduction
- Findings
- Discussion
- Recommendations
- Potential Areas of Research for the Future
- Conclusion
CHAPTER V

SUMMARY OF THE FINDINGS

Introduction

In chapter IV a detailed analysis has been made. In this chapter, the investigator presents a summary of the findings of the study. The findings are discussed in the light of the previous researches conducted related to the present study. The investigator has presented certain recommendations on the basis of findings and discussion for making further research and follow up.

In the quantitative analysis, the investigator attempted to know whether there is any significant difference among the main independent variables - schools, locality and sex on the dependent variable, "attitude score". In the case of teachers, the variable - 'type of teachers' was substituted in lieu of the variable - locality. It was also attempted to know the extent of interaction between the variables wherever necessary. The findings from the quantitative analysis were followed by the summary of findings from the qualitative analysis.
Findings

The findings of both quantitative and qualitative analyses are summarised as follows:

1. The main effect 'school' revealed that the calculated value (4.089) was greater than the table value (3.87) at 0.05 level of significance. From this it was found that there was significant difference between the attitude scores of visually disabled children on the basis of level of schools namely primary, secondary and higher secondary. The average attitude score of the children of secondary schools was higher than that of primary and higher secondary level in the integrated education programme.

2. The main effect 'locality' indicated no significant difference between the attitude scores of visually disabled children in the integrated education programme as the calculated 'F' value (0.316) was less than the table value. It reveals that the attitude of visually disabled children remained the same irrespective of locality of the schools.

3. The main effect 'gender' showed significant difference between the attitude scores of male and female visually disabled children as the calculated 'F' value (4.117) was greater than the table value. It was found that male visually disabled children had more favourable attitude towards integration than the female children.
4. The two-way interaction between 'schools X locality' was not significant at 0.05 level of significance. Therefore, the results of the main effects can be generalised.

5. It was found that there was no significant interaction effect between the 'schools X gender' on the mean attitude scores of visually disabled children in the integrated education programme. This ensures the generalisability of results of the main effects.

6. It was found that there was no significant interaction effect of attitude scores of visually disabled between locality and gender at 0.05 level of significance.

7. The main effect 'school' revealed that the calculated value (7.613) was greater than the table value (3.87) at 0.05 level of significance. It reveals that there was significant difference between the attitude scores of non-disabled children on the basis of level of schools such as primary, secondary and higher secondary. It was found from the average attitude score of non-disabled children that the children of secondary schools had more favourable attitude towards integration than the children of higher secondary and primary schools.
8. The main effect 'locality' showed no significant difference between the attitude scores of non-disabled children in the integrated education programme on the basis of locality such as urban and rural areas as the calculated 'F' value (1.619) was less than the table value (3.87). It was found that all non-disabled children had favourable attitude towards integration irrespective of rural and urban areas.

9. The main effect 'gender' indicated significant difference between the attitude scores of male and female non-disabled children in the integrated education programme as the calculated 'F' value (6.237) was greater than the table value. It reveals that the male non-disabled children had more favourable attitude than the female non-disabled children of integrated education programme.

10. The two-way interaction between schools and locality revealed that there was no significant interaction effect of attitude scores of non-disabled children between schools and locality at 0.05 level of significance. Therefore, the results of the main effects can be generalised.

11. The two-way interaction between schools and gender showed that there was no significant interaction effect of the attitude scores of non-disabled children between schools and gender.
12. The two-way interaction between locality and gender showed that there was significant interaction effect of the attitude scores of non-disabled children between locality and gender.

Results of multiple comparisons showed that there was a significant difference between the pairs namely:

- Urban : Male non-disabled and Female non-disabled
- Female : Urban non-disabled and Rural non-disabled
- Urban : Female non-disabled and Rural male non-disabled

The other pairs such as rural male non-disabled and rural female non-disabled; male urban non-disabled and male rural non-disabled; urban male non-disabled and rural female non-disabled were found insignificant.

13. The general comparison of mean attitude scores of visually disabled children and non-disabled children indicated significant difference as the calculated 't' value (5.63) was greater than the table value at 0.01 and 0.05 level of significance. It was found that visually disabled children had more positive attitude towards integrated education than that of non-disabled children.

14. The main effect 'school level' revealed that the calculated 'F' value (3.04) is less than that of the table (3.49) at 0.05 level of significance and so there was no significant difference between the attitude scores of
teachers in the integrated education programme on the basis of school level such as primary, secondary and higher secondary schools. However, the mean attitude scores of primary level teachers (179.26) was higher than that of secondary and higher secondary level teachers.

15. The main effect 'type of teachers' showed that there was significant difference between the attitude scores of teachers on the basis of teachers namely resource teachers and regular teachers as the calculated 'F' value (7.04) is greater than the table value. It was found that the resource teachers had more positive attitude than that of regular teachers towards integrated education programme.

16. The main effect 'gender' indicated no significant difference between the mean attitude scores of male and female teachers in the integrated education programme as the calculated 'F' value (2.288) was less than the table value. However the mean value of female teachers was higher than the male teachers.

17. The two-way interaction between schools and type of teachers showed that there was no significant interaction effect on the attitude scores of teachers between the level of schools of schools and type of teachers at 0.05 level of significance.
18. The two-way interaction between schools and gender showed that there was no significant interaction effect on the attitude scores of teachers between schools and gender at 0.05 level of significance.

19. The two-way interaction between the type of teachers and gender showed significant interaction effect on the attitude scores of teachers as per type of teachers namely resource teachers and regular teachers and gender at 0.05 level of significance. From the results of sex-wise multiple comparisons of the mean attitude scores of resource teachers and regular teachers, it was found that the following pairs had the significant difference.

- Male resource teacher and male regular teacher
- Female resource teacher and male regular teacher
- Male regular teacher and female regular teacher

The pairs namely the male resource teacher and female resource teacher; male resource teacher and female regular teacher; female resource teacher and female regular teacher had no significant difference in their mean attitude scores.

20. The general comparison of mean attitude scores of resource teachers and regular teachers showed significant difference as the calculated ‘t’ value (2.34) was found greater than the table value at 0.05 level of significance.
It was found that average attitude score of resource teachers was higher than that of regular teachers.

21. It was found that there was significant difference between the attitude of school administrators of primary and secondary schools in rural area as the calculated 't' value (3.849) was greater than the table value. The average attitude score indicated that the school administrators of rural secondary and higher secondary schools had more favourable attitude than that of rural primary school administrators.

22. The comparison of school administrators of primary and secondary schools in urban area showed that there was significant difference in their attitude towards integrated education programme as the calculated 't' value (3.222) was greater than the table value. The school administrators of urban area secondary and higher secondary schools had more favourable attitude than that of urban area primary school administrators towards integrated education.

23. It was found from the comparison of attitude scores of rural and urban area school administrators in primary schools that there was no significant difference between their attitude towards integrated education as the calculated 't' value (0.534) was less than the table value. It was found
that the locality namely rural and urban area had no impact on the attitude of school administrators in primary schools.

24. The comparison of attitude scores of rural and urban area school administrators in secondary schools revealed that there was no significant difference in their attitude towards integrated education as the calculated ‘t’ value (0.302) was less than the table value. It was found that the locality namely rural and urban area had no impact on the attitude of school administrators in secondary schools.

25. The comparison of mean attitude scores of school administrators of rural primary schools and urban secondary schools revealed that there was significant difference in their attitude towards integrated education as the calculated ‘t’ value (4.228) was greater than the table value at 0.05 and 0.01 level of significance. The mean score of school administrators of urban secondary was higher than that of rural primary school administrators.

26. The comparison between the mean attitude scores of administrators of urban primary and rural secondary schools showed significant difference at 0.05 level of significance as the calculated ‘t’ value (2.776) was greater than the table value. It was found that the mean score of school
administrators of rural secondary was higher than that of urban primary school administrators.

27. The comparison between the male and female school administrators indicated no significant difference between the mean attitude scores of male and female as the calculated ‘t’ value (1.12) was less than the table value and so the gender had no impact on the attitude of school administrators in the integrated education programme.

The following are the summary of the findings that emerged as a result of qualitative analysis on observation and interview.

28. Out of the 15 integrated education programmes observed, 13 schools had resource room facilities. These rooms are almost centrally located inside the school campus. The resource teachers felt that this room is a must for offering direct and indirect services.

29. Among the responsibilities of resource teachers, preparation of teaching aids occupies an important place. 97.2% of the resource teachers have utilised the low cost and locally available materials.

30. The visually disabled children felt happy when they were provided with learning materials in braille form. Some children were not able to follow the mathematics braille text books because of the lack of mastery over
mathematics braille codes. As far as science is concerned, the tactile diagrams given in braille text books are of immense use to visually disabled children.

31. It was noted that 89.5% of the teachers are not allowing more than two visually disabled children to sit together. They are aware that this practice improves their interaction with non-disabled children considerably.

32. 34.96% of the school administrators are very co-operative with the teachers. However, it was also observed that 69.3% of school administrators are not fully aware of the various aspects of the programme such as work load of the resource teachers. 92% of schools administrators were in favour of giving training to regular teachers in handling classes for visually disabled children.

33. 93.7% of the sample have accepted the view that development in plus curricular skills such as braille reading, braille writing, sensory training, orientation and mobility, and daily living skills helps them a lot to get along with the non-disabled children in carrying out the regular classroom activities.
34. 92% of the teachers are of the view that all areas including mathematics and science can be taught to visually disabled children if proper verbal instruction supplemented by teaching aids is given.

35. 67.8% of resource teachers responded optimistically about the participation of visually disabled children in science experiments. The following are the suggested activities:
   - Visually disabled children can be mixed with non-disabled children when they do experiments in groups.
   - The visually disabled children can be asked to write the procedures of doing experiments, materials required etc.
   - 95% of the teachers said that the visually disabled children should be provided with braille text books for mathematics and science.

36. With regard to evaluation procedures and examination system, the subjects revealed the following:
   - Scribes can be used for the annual examination and the public examination.
   - Visually disabled children can be asked to provide verbal explanation for the diagrams in science and mathematics.
37. The sample chosen for interview suggested the following for creating healthy atmosphere in teaching-learning environment in integrated education programme for visually disabled children.

■ All visually disabled children should have braille text books to read inside and outside the classroom. Each child should have individual copies.

■ The regular teachers need guide books containing adapted instructions for visually disabled children.

■ The visually disabled child should be given proper training in using remaining senses.

38. With regard to the programme development, the interviews revealed the following suggestions:

■ The resource teachers should be treated on par with the regular teachers and they should be recognised by the government.

■ The integrated schools should not depend solely on the government or the voluntary agencies for the financial assistance. The school authorities should try to mobilise the resources available from the local community.

■ The school administrators should be oriented to the various procedures related to the work load of resource teachers and nature of resource room activities.
Discussion

It is necessary for any researcher to see the concurrence of the findings of the present study and the previous studies related to the problem currently undertaken for the investigation. Keeping this in view, the investigator attempted to discuss the pertinent issues of the integrated education programme in the light of the objectives of present study under the following headings.

Attitude of Children, Teachers and School Administrators towards Integrated Education Programme:

One of the objectives of this study is to find out the attitude of students and personnel involved in the programme. From the findings it was identified by the investigator that the subjects of this study have favourable attitude towards integrated education programmes. Early integration of the children contributed a lot in solving the problems arising out of academic and social adjustments. The regular classroom instructions of the regular teachers and the support services rendered by the resource teachers are found to be the strength to the development of visually disabled children on par with sighted peers. The gender of teachers had no impact on the attitude of the regular and resource teachers or general classroom teachers, both male and female teachers had favourable attitude towards integration. The same result was found among the school administrators too. The study conducted by Geetha (1983) supports this finding. The study of Selvin Navaraj (1988) came out with a result that the experience in integrated education programme will contribute considerably to the development
of favourable attitude of school administrators towards integrated education programme.

Resource Teachers and Regular Teachers in Teaching-Learning Situations:

The main responsibility of the resource teacher is to give support services to visually disabled children through teaching plus curricular skills. This ensures the maximum participation of the disabled children in regular class.

During observation, the investigator found that the primary level children spent most of their time with resource teachers. These children must be taught the basic plus curricular skills by the resource teachers. This will increase their participation in the general classroom activities. When the resource teachers are over loaded with more than eight children, giving individual attention becomes very difficult. When the children attend the general class without proper learning materials, they cannot not perform like that of the sighted children in the regular class. Providing right learning materials is one of the basic requirements of visually disabled children. The studies of Norris, Spaulding and Brodie (1977) emphasised that when opportunities for learning are adequate, blind children develop at essentially the same rate as sighted. The investigator identified that success of the programme is quite possible when there is a good co-operation between the resource and regular teachers. The regular teachers are found busy in covering the syllabus of respective standards. This some times made them inattentive towards visually disabled when they are in the regular class. From the observation, it was identified by
the investigator that all the regular teachers are not fully aware of their responsibilities in the integrated education programme. This naturally necessitates the periodical need for the orientation courses for the personnel involved in the programme. Rajasekar (1988) endorsed this finding and stated further in his study that the teachers should be focused with latest teaching methods and techniques too.

During observation, the investigator observed that the visually disabled children who were not able to use the braille text books and the tangible aids in the regular class were not welcomed by the regular teachers. This clearly shows the importance of tangible learning materials prepared by the resource teachers.

Learning Problems of Visually Disabled and Non-Disabled Children:

The data collected for this study revealed that there is no need of special curriculum for the education of visually disabled children when they are studying in the integrated education programme but the materials and equipment used for learning purposes, teaching methods and techniques followed by the teachers should be modified and adapted. This was supported in several studies (Mani, 1982. Gearheart and Weishahn, 1976).

At present, the visually disabled children receive limited books particularly for science and mathematics. The visually disabled children are badly in need of more number of text books in braille. Devadasan Kanagaraj (1987) also stated that achievements of visually disabled children in the general curriculum is restricted due to the non-availability of sufficient learning materials and
therefore steps should be taken by the government organisations for the provision of appropriate learning materials.

During interview with the visually disabled children who got admission into the integrated school after getting some years of experience in the school for the blind, the investigator identified that they find it difficult in following the braille text books because of lack of uniform braille codes particularly in mathematics and science. Jebaseelan (1988) also stated in his study 'on the effectiveness mathematics braille text books' that uniform braille code be followed in all the schools currently educating the visually disabled children.

85.7% of the sample have accepted the view that their development in plus curricular skills such as braille reading, braille writing, sensory training, orientation and mobility, daily living skills helps them a lot to get along with the non-disabled children in carrying out the regular classroom activities.

During observation, the investigator noticed that the learning of visually disabled was not very much different from that of the sighted. The visually disabled children who were not very good in mathematics and science text books had some difficulties in following the instructions of the regular teachers. But this can be overcome by giving special coaching in science and mathematics braille code by the resource teachers. The study of Philip (1990) revealed that the visually disabled children and sighted children do not differ in their academic achievement.
Role of Administrators in the Integrated Education Programmes:

One of the major objectives of this study was to elicit the views of school administrators in the integrated education programmes. The School Administrator Attitude Scale revealed that they have favourable attitude towards integrated education programme. Mani (1982), Geetha (1983) and Selvaraj (1988) revealed similar findings. During interview with the teachers, they revealed that the head of the institutions can co-ordinate the work of regular teachers and resource teachers. They should be aware of the routine work of the teachers. This will pave the way for better planning of the programme.

The importance of treating resource teachers on par with regular teachers was felt by the investigator during observation. The interview with the head of the institutions revealed that they are in support of the training facilities to be extended for the regular teachers in handling visually disabled children. They are also favourable in allowing resource teachers to handle some of the general classes.

Recommendations

The findings of the present study have many direct and indirect implications in the education of the visually disabled children. Based on the findings and discussions, the investigator presents some of the following recommendations for necessary follow-up and further pursuits.
Attention to More Service Coverage:

It is commonly felt that the goal of achieving education for all children with visual impairment by the year 2000 A.D is no longer feasible. The present challenge in the education of disabled is to reach MANY children, in MANY areas, in the shortest possible time. The approach should be of more programmes in 'unreached' areas and effective utilisation of the existing infrastructure in the reached areas. Having understood this situation, India may propose to increase the present estimated coverage of 20,000 children with visual impairment a minimum of 80,000 by the year 2,000 A.D. This naturally draws our attention to the strengthening and expanding the services to provide better quality and accessibility. In the states or districts where such services are already available, attention should be paid to achieve higher coverage. In other areas, new facilities need to be created.

Need for Flexibility and Adaptability:

Though some problems in teaching and learning of visually disabled children are found common, some of the issues such as strength, availability of resources, support of para-professionals cannot be the same in all integrated education programmes. So, it is necessary that no uniform mode of service delivery system can be made within or across the country like India. There should be provisions for forming specific modalities depending upon the local situations.
planning should take into account the strengths and limitations of the particular state.

**Manpower Development and Material Production:**

Having understood the role of teacher preparation centres in upgrading the quality and accessibility of educational services available to the visually disabled children, the special emphasis will have to be placed on teachers preparation and, production and distribution of resource materials.

Strengthening the general education system to meet the needs of special children alone can provide education to all disabled children. Therefore, it is necessary that general teacher preparation programmes include adequate and relevant content on special education, so that general classroom teachers can teach disabled children without much assistance from the specialist teachers.

So, it is necessary that efforts at the national level must be made to include special education curriculum at all levels of teacher preparation so that the general education system is geared to meet the needs of disabled children.

**Integration and Co-ordination of Programmes of Disabled:**

Community Based Rehabilitation Programmes are becoming the need of the disabled children. These programmes facilitate the services relating to identification, referral and early intervention for children with visual impairment and it is essential that there is effective interaction between CBR and education programmes. Similarly, the 'Early Childhood Intervention Programme' should
also be integrated with the educational programmes of visually disabled children.

Education of Disabled Children Should be the Responsibility of the States:

It is common experience that the real cost involved in educating the disabled children in comparison to general education is not fully known to administrators. The centrally sponsored scheme has created an impression that disabled children are the responsibility of the government of India whereas education is a State subject. When State governments spend money on the education of non-disabled children, it is necessary that integrated education for disabled children should also come under the jurisdiction of States.

Promoting Composite Area Approach:

Composite Area Approach (CAA) is a comprehensive methodology to serve disabled children in integrated setting. The main features of the CAA are as follows:

- Development of the capability of the general education system to meet the educational needs of disabled children.
- Flexibility in programme models to address the variations found at the State as well as block levels.
- Maximising educational services for disabled children with limited resources.
- Participation of parents and communities in the planning and execution of services for children in general and disabled children, in particular.
- Improving the communication between disabled children and non-disabled children to promote child-to-child learning.
- Making the programme for disabled children as an integral part of the general educational system rather than a system within general education.
- Economic viability of services for education of disabled children.
- Easy approachability of schools so that disabled children could come to school from home.

The composite area approach perceives the idea that *education of the visually disabled is to be made an integral part of general education*, the essential service should be provided by the regular teachers, the support service by the resource teachers and the peripheral service by the government and voluntary organisations. This can be made with the assistance of school administrators, seeing children and the parents. *This approach can be extended to all the integrated education programmes of Tamilnadu.* It is worth to mention that Mani (1993) came out with a successful implementation of this approach in his evaluation study in several parts of India.
Encouraging Inclusive Education:

In developed countries, resource, itinerant and co-operative models of integrated education are used. These models work in Indian conditions too, but they are able to cover only a small section of the disabled population. Further, one of the difficulties in making integrated education programme permeable is that it is costly to some extent. Another difficulty is that when the strength of visually disabled in a programme is less to the extent of one or two, it is not advisable to appoint one resource teacher. Under such circumstances, the inclusive education which has the provision of involving regular teachers with some basic training in handling visually disabled children is the answer available at present.

The Salamanca Framework of Action supports the concept of inclusive schooling which was endorsed by the National conference of Non-Governmental Organisations and Governmental Organisations held at the NCERT, New Delhi from June 29 to July 1, 1994. Now, it is high time to explore all possibilities for executing ‘inclusive education’ to the maximum extent possible in India.

Material for the Personnel of the Integrated Education Programme:

The importance of preparation and dissemination of adapted instructional material for teaching various subjects has been very much realised. The government organisations such as NCERT, SCERT should take steps to initiate the preparation of instructional materials for the use of regular teachers particularly for mathematics and science.
Learning Material for Visually Disabled Children:

At present, mathematics and science braille text books are supplied by the voluntary organisations. The government should take steps to prepare these text books and supply to the visually disabled children. The supply of supplementary learning materials contribute a lot to the education of visually disabled children to compensate their loss due to lack of vision.

Orientation Programmes and Professional Enrichment Programmes:

It is very vital for the effective functioning of the programme to conduct the orientation programmes for the regular teachers and school administrators of the integrated education programmes. The resource teachers who are working in the integrated education programmes can be exposed to the latest developments in the education of the visually disabled children. This may include the contemporary trends in terms of innovative materials, methods, techniques of teaching, policies of the government etc.,

The resource teachers can be given training in multi-category system so that the present educational service be extended to other disabled children. It will also justify the job of the resource teachers when they do not have sufficient strength of a particular category in the programme.

Potential Areas of Research for the Future

The research is characterised by a chain of questions. Some of the research questions may be answered by a series of research studies. As a
result of this study, the investigator suggests that the following are some of the potential areas of research for future investigations.

1. Effectiveness of integrated education on the personality development of visually disabled children and seeing children.


3. Investigation of areas for creative arts for the visually disabled children in the integrated education programmes.

4. Effectiveness of integrated education programme on the visually disabled and hearing impaired children.

5. The relationship between the learning of mobility skills and the school curriculum.

6. The study of vocational subjects suitable for visually disabled children in the integrated education programmes.

7. Effectiveness of team teaching by the resource teachers and regular teachers in general classrooms.
Conclusion

Gandhiji said, "Don't go about lecturing of the problems and solutions. Go round the people, observe things and have first hand information. When you feel that you have understood the problems, begin offering solutions." With the spirit of the words of Gandhiji, this study attempted to investigate the issues and challenges confronted by integrated education programmes for visually disabled children. Our past and present experiences in the education of disabled children reveal that:

There is no single way to solve any problem. Ways and means are many. This study is not the end. In fact, there is a long way to go to achieve our goal, the Education For All disabled children.