CHAPTER V

SUMMARY AND CONCLUSION

5.0 OVERVIEW

The purpose of this study is to measure the Awareness and Utilization of Information and Communication Technologies among the B.Ed. Student-Teachers of Tamil Nadu. The Variables in the study are Sex of the Student-Teachers, Locality, Age, Marital status, Community, Basic Qualification, Major subject in Degree Course, Parents Education and Parent’s Occupation and so on. The teacher developed tools used in the study were a Questionnaire developed by the investigator to measure the Awareness and Utilization of ICT devices by the Student-Teachers in their Colleges of Education. To know the Availability of ICT facilities in the Colleges of Education, ICT Availability Schedule was also collected from all the Colleges. In this study Stratified Random Sampling Technique was followed and the data were collected from 880 Student-Teachers from 10 different B.Ed., Colleges such as Government, Aided and Self-Financing Colleges of Education in Tamil Nadu. The Statistical Techniques used were Average, Standard Deviation, ‘t’ test and Correlation Co-efficient. Findings and conclusions were derived from the results in chapter IV. The present chapter deals with the Findings, Discussion and Conclusion, Educational Implications and Suggestions for the Further Study.
5.1 FINDINGS OF THE STUDY

The results obtained from the previous chapter were presented in the following Two captions such as Descriptive Analysis and Inferential Analysis.

5.2 DESCRIPTIVE ANALYSIS

This section deals with the analysis of the Mean and Standard Deviation scores on the Awareness and Utilization of the ICT devices among the Colleges of Education with High, Low Availability of ICT devices, Government, Aided and Self-Financing Colleges of Education. The results are presented in the following Five sub divisions. The findings drawn from the results presented in the previous chapters are given below:

5.2.1 Level of Awareness and Utilization of ICT devices among the Colleges with High Availability of ICT devices

1. Awareness on ICT devices were high among the Student-Teachers of age group Above 30 years whereas their Utilization was less. The Awareness among Mathematics major Student-Teachers were less and the Utilization were high among the Female Student-Teachers.
5.2.2 Level of Awareness and Utilization of ICT devices among the Colleges with Low Availability of ICT devices

2. Among the Student-Teachers of Private/Other employed parents, the Awareness and Utilization of ICT devices were less whereas Awareness is high among the Student-Teachers of Business parents and Utilization were high among SC community Student-Teachers.

5.2.3 Level of Awareness and Utilization of ICT devices among the Government Colleges of Education

3. Awareness is less among the Mathematics major Student-Teachers and Utilization is less among Student-Teachers of Professionally qualified parents whereas both Awareness and Utilization were high among the Student-Teachers of age Above 30 years.

5.2.4 Level of Awareness and Utilization of ICT devices among the Aided Colleges of Education

4. Awareness is high and Utilization is less among the Student-Teachers of age Above 30 years whereas among SC Student-Teachers the Awareness on ICT devices is less and Utilization is more among the Rural locality Student-Teachers.
5.2.5 Level of Awareness and Utilization of ICT devices among the Self-Financing Colleges of Education

5. Among the SC community Student-Teachers, Awareness is less and Utilization is more whereas the Awareness is more among Student-Teachers of Graduate parents and Utilization is less among Student-Teachers of Professionally qualified parents.

5.3 INFERENTIAL ANALYSIS

5.3.1 Level of Awareness and Utilization of ICT devices among Colleges with High Availability of ICT devices

6. The Awareness and Utilization of ICT devices among the Female Student-Teachers were significantly more than the Male Student-Teachers.

7. Among the Rural and Urban Student-Teachers, the Awareness and Utilization of ICT devices were similar.

8. The Awareness between the Student-Teachers of all the age groups and the Utilization of ICT devices between the Student-Teachers of age groups 20-25 & 26-30 years were similar. The Utilization of ICT facilities among Student-Teachers of the age group Above 30 years is less.
9. Between the Married and Unmarried Student-Teachers, the Awareness on ICT devices were similar whereas the Unmarried were Utilizing more ICT devices than the Married Student-Teachers.

10. Among the MBC and BC Student-Teachers, the Awareness and Utilization of ICT devices were found similar whereas Awareness is less among the SC Student-Teachers and were utilizing ICT facilities more than the others.

11. UG and PG qualified Student-Teachers were having similar Awareness and Utilization of ICT devices.

12. Arts and Science major Student-Teachers were having similar Awareness on the ICT devices and it was more than the Awareness of Mathematics major Student-Teachers.

13. The Utilization of ICT devices among the Science major Student-Teachers was more than the Arts and Mathematics major Student-Teachers.

14. The Awareness on ICT devices among the Student-Teachers with regard to Parents Education were similar but the Student-Teachers of School Educated parents were Utilizing the ICT devices more than the Professionally qualified parents Student-Teachers.
15. The Awareness and the Utilization of ICT devices among the Student-Teachers with regard to the Parents Occupations were similar.

5.3.2 Relationship of Awareness and Utilization of ICT devices among Colleges with High Availability of ICT devices

16. There was No Significant Relationship between the Awareness and Utilization of ICT devices among the Student-Teachers in Total, Sex, Locality, and Age, Marital status, Community, Basic Qualification, Major subject, Parent’s Education and Parent’s occupation.

5.3.3 Level of Awareness and Utilization of ICT devices among Colleges with Low Availability of ICT devices

17. Among the Female Student-Teachers the Awareness on ICT facilities were more whereas the Utilization is less but among the Male the Awareness is less and the Utilization is more.

18. The Rural and Urban Student-Teachers were having similar level of Awareness and Utilization of the ICT devices was similar.
19. The Awareness on the ICT devices among the Student-Teachers of 26-30 years was significantly more than the 20-25 and Above 30 years age group whereas regarding the Utilization of the ICT devices all the age groups were Utilizing similarly.

20. Married Student-Teachers were significantly more aware of ICT devices whereas the Unmarried are Utilizing ICT devices more than the Married Student-Teachers.

21. Among the MBC and BC Student-Teachers the Awareness and the Utilization of ICT devices were similar whereas among the SC Student-Teachers Awareness is less and are Utilizing ICT devices more than the others.

22. UG and PG qualified Student-Teachers were having similar Awareness on ICT facilities whereas regarding Utilization the UG qualified Student-Teachers utilize more ICT devices than the PG qualified.

23. The Awareness among all major Student-Teachers of all major subjects were similar whereas regarding the Utilization of ICT facilities among the Mathematics and Science major Student-Teachers were similar and is more than the Arts major Student-Teachers.
24. Between the Student-Teachers of School Educated and Graduate parents the Awareness and the Utilization of ICT devices were similar.

25. The Awareness on ICT devices among the Student-Teachers with regard to the Parents Occupations Business and Government employment were significantly higher than the Private/Other employed.

26. The Utilization of the ICT devices among the Student-Teachers who’s Parent’s Occupation was Agriculture were more than the Business, Government and Private/Other Employed parents.

5.3.4 Relationship of Awareness and Utilization of ICT devices among Colleges with Low Availability of ICT devices

27. There was No Significant Relationship between the Awareness and Utilization of ICT devices among the Student-Teachers with respect to the Student-Teachers in Total, Sex, Locality, Age, Marital Status, Community, Basic Qualification, Major Subject, Parent’s Education and Parent’s occupation. Among the Student-Teachers of Private/Other employed parents the Awareness on ICT devices is significantly more and the Utilization is less.
5.3.5 Level of Awareness and Utilization of ICT devices between Colleges of the Low and High Availability of ICT devices

28. The Awareness on ICT devices among the Male Student-Teachers was similar in both the Colleges of Low and High Availability of ICT devices whereas among the Female it was more in the High Availability Colleges of Education.

29. Among the Male Student-Teachers of Low Availability Colleges and Female Student-Teachers of High Availability Colleges, the Utilization of ICT devices were more than their counter parts.

30. The Awareness and Utilization of ICT devices among the Student-Teachers of High Availability Colleges of both Rural and Urban locality were significantly more than the Low Availability ICT Colleges of Education.

31. Among the Student-Teachers of age group 26-30 years and Above 30 years of both High Availability and Low Availability Colleges, Student-Teachers Awareness on ICT devices and the Utilization were similar whereas it was more among the 20-25 years age grouped Student-Teachers of High Availability Colleges of Education.
32. Married Student-Teachers were having similar Awareness on ICT devices and were Utilizing ICT facilities equally in both the High and Low Availability Colleges of Education.

33. The Awareness and Utilization of ICT devices among the Unmarried Student-Teachers were more in the High Availability Colleges than the Low Availability Colleges.

34. SC and MBC Student-Teachers of both the High and Low Availability Colleges were having similar Awareness and were found to be Utilizing the ICT facilities equally.

35. Among the High Availability of ICT facility Colleges, the Awareness and Utilization of ICT devices between the BC community Student-Teachers were more than the Low Availability Colleges.

36. Both UG and PG qualified Student-Teachers of High Availability Colleges were having more Awareness and Utilization of ICT devices than the Low Availability College Student-Teachers.

37. The Awareness on ICT devices of both Arts and Mathematics major Student-Teachers between High and Low Availability Colleges were similar whereas among the Science major Student-Teachers of High Availability
Colleges Awareness is more than the Low Availability Colleges.

38. The Utilization of ICT devices among the Arts and Science major Student-Teachers of High Availability Colleges was more than the Low Availability College Student-Teachers whereas among the Mathematics Student-Teachers of Low Availability Colleges the Utilization was more than the High Availability College Student-Teachers.

39. Among Student-Teachers of School Educated parents of High Availability Colleges, the Awareness and Utilization of ICT devices were more than the Low Availability Colleges whereas among Student-Teachers of Graduate parents of High and Low Availability Colleges the Awareness and Utilization were similar.

40. Between High and Low Availability Colleges, the Awareness on ICT devices among Student-Teachers of parents with Agriculture, Business, Government and Private/Others as occupation were similar.

41. The Utilization of ICT devices among Student-Teachers of Businessmen of Low and High Availability College Student-Teachers were similar whereas Government and Private/Other employed of High Availability College were more than the Low Availability Colleges. Among the
Student-Teachers of Agriculture parents of Low Availability College, the Utilization of ICT facilities were more than the High Availability College Student-Teachers.

5.3.6 Level of Awareness and Utilization of ICT devices among Government Colleges of Education

42. Male and Female Student-Teachers of Government Colleges of Education were having similar Awareness and Utilization of ICT devices were also similar.

43. The Awareness and Utilization of ICT devices among the Student-Teachers of Rural and Urban locality of Government Colleges of Education were similar.

44. Among the SC, MBC and BC Student-Teachers of Government Colleges of Education, the Awareness and Utilization of ICT devices were found to be similar.

45. UG and PG qualified Student-Teachers were having similar Awareness and were Utilizing the ICT devices equally.

46. The Awareness among the Arts and Science major Student-Teachers was similar and were more than the Mathematics major Student-Teachers.

47. The Utilization of ICT devices between the Arts, Mathematics and Science major Student-Teachers were similar.
48. Between the Student-Teachers of School Educated and Graduate parent’s the Awareness and Utilization of ICT devices were similar.

49. The Awareness on ICT devices between Student-Teachers who’s Parent’s Occupation were Agriculture, Government and Private/Other were similar.

50. The Utilization of ICT devices between Student-Teachers, whose Parent’s Occupation were Government and Private/Other employment were similar whereas Student-Teachers of Agriculture parents it was more than the others.

5.3.7 Level of Awareness and Utilization of ICT devices among Aided Colleges of Education

51. Male and Female Student-Teachers were having similar Awareness on ICT facilities whereas the Utilization of ICT facilities by the Male were more than the Female Student-Teachers.

52. Rural and Urban Student-Teachers have similar Awareness on ICT devices whereas the Rural Student-Teachers Utilization was more than the Urban Student-Teachers.

53. SC, MBC Student-Teachers Awareness on ICT devices were similar but it is less than the BC Student-Teachers.
54. The Utilization of ICT devices between MBC and BC community Student-Teachers were similar and less than the SC community Student-Teachers Utilization.

55. UG and PG qualified Student-Teachers have similar Awareness on ICT devices and Utilizing the ICT facilities equally.

56. The Awareness and Utilization of ICT devices among the Science major Student-Teachers were more than the Mathematics major Student-Teachers.

57. Student-Teachers of Graduate and Professionally Qualified parents have similar Awareness on ICT devices and are Utilizing them equally.

58. The Awareness on ICT devices among the Student-Teachers of Parents occupation Agriculture and Private/Other employment were similar and are lesser than the Government employed.

59. Among the Student-Teachers of Parents Occupation Agriculture and Private/Other the Awareness on ICT devices were similar whereas among the Agriculture Parents Awareness on ICT facilities were more than the Government Employed.
5.3.8 Level of Awareness and Utilization of ICT devices among Self-Financing Colleges of Education

60. Female Student-Teachers were having significantly more Awareness on ICT devices and the Utilization is less whereas the Male Student-Teachers were utilizing more ICT facilities with less Awareness.

61. The Awareness and Utilization of ICT devices among the Student-Teachers of Rural and Urban locality were similar.

62. SC and MBC Student-Teachers were having similar less Awareness on ICT devices whereas among the BC Student-Teachers Awareness was more on ICT devices than the SC Student-Teachers.

63. The Utilization of ICT devices between MBC and BC Student-Teachers were similar and less whereas Utilization is more among the SC Student-Teachers.

64. Between the UG and PG qualified Student-Teachers the Awareness on ICT devices were similar whereas the UG qualified were utilizing more ICT facilities than the PG qualified Student-Teachers.

65. Arts, Mathematics and Science major Student-Teachers were equally Aware of ICT devices but the Science major were
utilizing more ICT facilities than the Arts major Student-Teachers.

66. Student-Teachers of School Educated and Graduate parents were having similar Awareness on ICT facilities and were equally Utilizing ICT devices.

67. The Awareness on ICT devices among the Student-Teachers whose Parent’s Occupation were Agriculture, Government and Private/Other employment were similar whereas Utilization of ICT devices among Student-Teachers of Agriculture parents were Significantly more than the others.

5.4 DISCUSSION AND CONCLUSION

On analyzing the Availability of the ICT devices among the Government, Aided and Self-Financing Colleges of Education the results revealed that the Availability of ICT devices were comparatively more in the Government and Aided Colleges of Education. This may be due to the reason that the financial allotment of every academic year towards the purchase of the ICT devices. In the Self-Financing Colleges of Education the Availability of ICT facilities was Low, which may be because of the insufficient fund allotment. When the level of Utilization of ICT devices among the Government and Self-Financing Colleges were compared, it was found that the Utilization was more among the Self-Financing Colleges of Education than the Government Colleges of education. This may be due to the reason that the attitude of Student-Teachers of Self-Financing Colleges is unique.
Since they have paid a lump sum amount as their course fee, they may be intended to Utilize all the facilities available to them including the ICT devices. Also it may be because of the reason that the chances are more and made compulsory for the Utilization of ICT devices by their faculty members. From the analysis of the review of related literature, similar findings were found from the studies of Yashobanta Samal, (2000); Jyoti Tare, (2001); Ms. Deena & Y. Desai, (2004); Suresh Kumar Pulist (2004); Yadav Kusum, (2004); Darshana Chaudhari, (2005); Hiralkumar M. Barot, (2005); Jayakumar Rathod, (2005); Rakesh Pardhshi, (2005) and Anil Tanaji Patil, (2006).

It was to be noticed from the results that the Student-Teachers of High Availability Colleges of Education were significantly aware of the ICT devices and the Utilization was also more. It was further noticed that the lesser the Awareness lesser, the Utilization. It may be because of the reason that the ICT devices are available in the Colleges of Education to the fullest sufficiency, the exposure of the ICT devices created more Awareness and hence the Utilization is Maximum. The results are contradictory to the findings of the study conducted by Suresh Kumar Pulist (2004).

The awareness on ICT facilities among the Female Student-Teachers was significantly more in the Colleges with Low and High Availability of ICT devices. Significantly more Awareness among the Female Student-Teachers may be due to the fact that they may be interested in knowing new things in the field of Education and the technologies. Further it was found that the Utilization was also significantly more among them in the High Availability Colleges which may be because the ICT devices were
available to all and the chances of utilizing the devices may be more. While reviewing the related literature similar findings were obtained from the study conducted by Jyotitare (2001) and at the same time the findings are contradictory to the findings of the study conducted by Thatte C.H (1998).

The present study found that the Utilization of the ICT devices were significantly more among the Male Student-Teachers where the Availability was Low. This may be due to the fact that the Male Student-Teacher’s interest and the adjustment behavior i.e. satisfying themselves with the available facilities of ICT for teaching. From the results it was found true in all the Aided and Self-Financing Colleges of Education. The results obtained were contradictory to that of the findings of the study conducted by Thatte C.H (1998).

Regarding the Rural and Urban locality Student-Teachers, the Awareness and the Utilization of the ICT devices were significantly more among the High Availability Colleges of Education. This may be because of the reason that all the Student-Teachers irrespective of their locality were aware since they are exposed to the ICT devices available in their Colleges and the chance of utilizing it may be more. Results of the Study conducted by Jyotitare (2001) also reveal the same in support of Locality of the sample. The above trend in the Aided Colleges of Education varies i.e. the Utilization of ICT devices among the rural Student-Teachers were more than the urban Student-Teachers. It may be due to the reason that the exposure to the ICT devices by the Urban Student-Teachers may be more than the Rural Student-Teachers which would have fetched them a fatigue in the Utilization and
hence the Utilization was less among the Urban Student-Teachers than the Rural Student-Teachers.

The Awareness and the Utilization of ICT devices among the Student-Teachers of age group 20-25 years were noticed that it was more than the other two age groups 26-30 and Above 30 years. This may be because of their younger age they may be more interested on the technologies. There was an increase in the Awareness among the age groups 26-30 in the Low Availability Colleges of Education and Utilization in the High Availability Colleges. It may be because of their individual differences and their keen interest in knowing the advancements and its usage in teaching methodology. Similar results were obtained in Utilization of ICT devices among the High Availability College Student-Teachers also. The results were similar to the findings of the research conducted by Irfan Shaw (2005) which was in support of Age and the Degree of the sample.

Among the Married Student-Teachers from the results, it is revealed that the Awareness on ICT was more in the Colleges where the Availability of ICT devices is Low and in the Colleges where the ICT devices is High the Awareness was Less. But regarding the Utilization of the ICT devices, only the Unmarried Student-Teachers utilize the ICT devices more than the married. This may be because of the reason that, due to their family commitments they may not care much on the ICT devices rather they do not show any interest in utilizing the devices in teaching process.
It is to be noted that the Awareness on ICT facilities among the BC Student-Teachers were Significantly more and the Utilization of ICT devices by the SC Student-Teachers were Significantly more irrespective Low or High Availability of ICT facilities in the Colleges of Education. The Awareness among the BC Student-Teachers may be because of their abundant exposure to technology devices available in their houses because of their family situations. The Utilization of the SC Student-Teachers may be more because of their less Awareness and since the chances of utilizing them in their houses was less they tried to utilize all the ICT devices to the fullest extent whenever it is available. Similar findings were obtained from the results of the study conducted by Deena & Y. Desai (2004) in support of Community and Locality in the Utilization of Multimedia Approach in teaching. But when the Utilization was compared between the Colleges of Low and High Availability, the Utilization among the BC Student-Teachers were more like that of the Awareness which may be because of the sufficiency in the Availability of ICT devices motivated them to utilize the same in teaching process.

Among the Student-Teachers those who are basically UG and PG qualified, the Awareness and the Utilization of ICT devices were found to be similar in the Colleges where Availability was less and Utilization were Significantly more among the UG qualified in the Colleges where the Availability of ICT devices was high. It may be because of the reason as stated in the previous discussion that the sufficiency in the ICT devices to all
the individual Student-Teachers might have made them to be aware and to utilize it in the teaching process.

Further from the present study it is to be noted that among the Student-Teachers of various major subjects such as Arts, Mathematics and Science in their basic degrees, it was found that the Awareness among the Science major Student-Teachers was Significantly more and the Utilization was also more in the High Availability Colleges of Education. It was true in the case of Aided and Self-Financing Colleges of Education also. The reason may be that since the Science major Student-Teachers were having the practice of doing practical either in the major or in the allied subject right from their school days. The practice of doing practical by the Science major Student-Teachers made them to be aware of ICT facilities and to utilize them significantly more when compared to the Mathematics and Arts Graduates. But as an exception, in the Government Colleges of Education even the Arts major Student-Teachers were well aware of the ICT devices available in the Colleges which might be because of their curiosity. Similar findings were obtained in the research study conducted by Hiral Kumar M Barot (2005) supporting the Arts Student-Teachers in the Utilization of ICT devices and at the same time contradictory to the results were obtained from the study conducted by Jaya Kumar Rathod (2005).

Further from the results obtained reveal that the Student-Teachers whose parents are School Educated were having significantly more Awareness on ICT devices and Utilization of ICT devices more than that of the Student-Teachers of Graduates and Professionally Qualified parents. This
holds well in the High Availability Colleges also. This might be because of
their curiosity in knowing new things and to utilize the same.

With respect to the Parental Occupation of the Student-Teachers, when
the Awareness and Utilization of ICT devices are compared, the results
reveals that the Student-Teachers of Government employed and Business
parents were having significantly more awareness on ICT devices whereas the
Student-Teachers of Agriculturist parents were utilizing to the maximum
extent. The above fact was true irrespective of the nature of the College i.e.
Government, Aided and Self-financing Colleges of Education.

5.5 EDUCATIONAL IMPLICATIONS

The Availability of ICT facilities are high in the Government and
Aided Colleges of Education and low in the Self-Financing Colleges of
Education. The rules and regulations are to be made tough in such a way that
the Availability of ICT facilities are sufficient in Self-Financing Colleges of
Education so as to provide sufficient awareness among the Student-Teachers.
Special awareness programs may be conducted exclusively to Male
Student-Teachers as they are lagging in awareness. Extra timings may be
allotted in the evening hours for the Male Student-Teachers for getting
awareness on Over Head Projector, Computer operations, utilizing Video
Programs, Linguaphone etc. These kinds of activities may help them to get
more awareness on ICT facilities in the Colleges of Education. While utilizing
the ICT facilities in the Colleges of Education, the Student-Teachers are to be
given more chances to hands-on-experience on the ICT facilities. It is to be
seen properly that both Male and Female Student-Teachers are getting equal level of experiences in utilizing ICT devices in teaching.

Regarding the Awareness and the Utilization of the ICT devices among Rural and Urban locality Student-Teachers were significantly more only among the High Availability Colleges of Education. By means of arranging periodical inspection commission to verify the Availability of infrastructure, Availability of ICT facilities and other facilities to the Low Availability Colleges of Education will increase the Availability of ICT facilities even in the Low Availability Colleges of Education also. The Utilization of ICT devices among the Rural Student-Teachers were more than the Urban Student-Teachers of the Aided Colleges of Education. Exposure visits are to be conducted to the Student-Teachers to the other selected High Availability Colleges of Education in the nearby districts which will help the Student-Teachers to know about the Availability of ICT facilities in the other Colleges of education and to utilize them in their Colleges of Education.

The usage of ICT facilities in teaching should be made compulsory for all the age grouped Student-Teachers in the Colleges of education. All the Student-Teachers, irrespective of Married and Unmarried should be enlightened with the importance of ICT devices in the process of teaching learning process and latest technological developments in the field of ICT facilities. The BC and SC Student-Teachers are to be made aware of the ICT facilities available in their Colleges of Education by special awareness programs exclusively for them.
The Principals of the Colleges of Education are to be instructed to make periodical visit to see that the Teacher Educators are utilizing the ICT facilities in their Teaching and Training activities in the classroom teaching.

More exposure hours on ICT facilities may be allotted to the Non-Science major Student-Teachers such as Arts and Mathematics so as to increase their curiosity and awareness on ICT facilities and inculcate the habit of utilizing them regularly in their teaching process. More chances are to be created for the Student-Teachers whose parents Educational Qualification is only School Education. Student-Teachers of Graduates and Professionally qualified parents are to be made aware of the ICT facilities in teaching and they should be equipped to utilize them to the fullest extent in teaching.
5.6 SUGGESTIONS FOR FURTHER STUDY

Based on the Findings of the Present Study further studies are suggested to be conducted in future are as given below:

1. Similar studies may be conducted among the Student-Teachers taking the above variables in different places like Municipalities, District Head Quarters, Corporation, and Metropolitan Cities of Tamil Nadu.

2. Similar studies on the Utilization ICT devices may be conducted among Secondary Grade Teacher Training Student-Teachers of Tamil Nadu.

3. Similar studies may be conducted to find out the effectiveness of ICT devices over the Achievement in different subjects among the High and Higher Secondary Schools.

4. A similar study on ICT devices may be conducted among the different types of Schools such as Government, Aided, Municipal, Public and Matriculation Schools and so on.