CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

4.0 Introduction

The methodology followed in conducting the present study has been given in detail in the previous chapter. The present chapter is devoted to the presentation of results and their interpretations and the statistical techniques used for analysing the data.

The data pertaining to the Expanded Core Curricular Skills of Visually Impaired students were processed and analyzed with the use of both Qualitative and Quantitative analysis and the results obtained are discussed under the following sections.

4.1 Section I: Qualitative Analysis

4.1.1 Presents the level of acquisition of Expanded Core Curriculum among blind and low vision students separately

4.2 Section II: Quantitative Analysis

4.2.1 Effect of Expanded Core Curricular Skills on Academic Achievement of blind and low vision students with respect to Gender and Grade

4.2.2 Influence of Expanded Core Curricular Skills on Academic Achievement by considering Grade as covariate among blind and low vision students separately

4.2.3 Relationship between Expanded Core Curricular Skills and Academic Achievement

4.2.4 Regression Analysis between Academic Achievement and Expanded Core Curricular Skills among blind and low vision students separately

4.1 Section I: Qualitative Analysis

4.1.1 Level of Acquisition of Expanded Core Curricular Skills among Blind and Low Vision Students separately

a. Level of Acquisition of Expanded Core Curricular Skills among Blind Students

Expanded Core Curricular Skills were calculated for blind students from the data collected using the checklist. Descriptive statistics was used to find Expanded Core Curricular Skills and the same is given in the following table.

Table 4.1: Expanded Core Curricular Skills among Blind Students

No.	Minimum	Maximum	Mean	SD
70	47.00	132.00	96.55	16.60

The above table 4.1 shows that the Expanded Core Curricular Skills varies between a minimum of 47 to a maximum of 132. Higher the score, more will be the Expanded Core Curricular Skills. The average Expanded Core Curricular Skills is found to be 96.55 with SD 16.60. The respondents were grouped into Low, Moderate and High.

The respondents whose Expanded Core Curricular Skills fall below x-0.5 SD were classified into Low Expanded Core Curricular Skills group, if the respondents fall above x+0.5 SD, they were classified into Higher Expanded Core Curricular Skills group. The respondents whose Expanded Core Curricular Skills fall between mean -0.5 SD and mean +0.5 SD were classified as Moderate Expanded Core Curricular Skills group. The distribution of respondents through classification is given below:

Table 4.1 (a): Level of Expanded Core Curricular Skills among Blind Students

Level	No.	Percent
Low (<=89)	21	29.6
Moderate (90 - 105)	29	40.8
High (106 & Above)	20	29.6
Total	70	100.0

The table 4.1(a) shows that 40.8% of the respondents are classified under Moderate Expanded Core Curricular Skills group whereas 29.6% come under Low and High level Expanded Core Curricular Skills.

b. Level of Acquisition of Expanded Core Curricular Skills among Low Vision Students

Expanded Core Curricular Skills were calculated for low vision students from the data collected using the checklist. Descriptive statistics was used to find Expanded Core Curricular Skills and the same is given in the following table.

Table 4.2 : Expanded Core Curricular Skills among Low Vision Students

No.	Minimum	Maximum	Mean	SD
50	46.00	110.00	75.92	14.55

The above table 4.2 shows that the Expanded Core Curricular Skills varies between a minimum of 46 to a maximum of 110. Higher the score, more is the Expanded Core Curricular Skills. The average Expanded Core Curricular Skills is found to be 75.92 with SD 14.55. The respondents were grouped into Low, Moderate and High.

The respondents whose Expanded Core Curricular Skills fall below x-0.5 SD were classified into Low Expanded Core Curricular Skills group, if the

respondents fall above x+0.5 SD, they were classified into Higher Expanded Core Curricular Skills group. The respondents whose Expanded Core Curricular Skills fall between mean -0.5 SD and mean +0.5 SD were classified as Moderate Expanded Core Curricular Skills group. The distribution of respondents through classification is given below:

Table 4.2 (a): Level of Expanded Core Curricular Skills among Low Vision Students

Level	No.	Percent
Low (<=69)	17	34.7
Moderate (70 - 84)	21	42.9
High (85 & Above)	12	22.4
Total	50	100.0

The table 4.2(a) shows that 42.9% of the respondents are classified under Moderate Expanded Core Curricular Skills group whereas 34.7% and 22.4 % come under Low and High Expanded Core Curricular Skills.

c. Level of Acquisition of Different Sub Skills of Expanded Core Curriculum among Blind Students

The sub skills of Expanded Core Curriculum were calculated for blind students from the data collected using the checklist. Descriptive statistics was used to find the Sub Skills and the same is given in the following table.

Table 4.3: Sub Skills of Expanded Core Curriculum among Blind Students

Skills	No.	Minimum	Maximum	Mean	SD
Academic Skills	70	4.00	55.00	36.96	10.56
Career Education	70	18.00	34.00	26.79	4.02
Independent Living Skills	70	14.00	30.00	20.28	3.33
Orientation & Mobility Skills	70	0.00	10.00	5.23	2.78
Application of Technology	70	0.00	16.00	7.30	3.90

The above table 4.3 shows that the sub skills for Academic Skills vary between a minimum of 4 to a maximum of 55, for Career Education between 18 to 34, for Independent Living Skills between 14 to 30, for Orientation & Mobility Skills 0 to 10 and for Application of Technology between 0 to 16. Higher the score, more is the sub skills for Expanded Core Curriculum. The average SS for Academic Skills is found to be 36.96 with SD 10.56, for Career Education 26.79 and 4.02, for Independent Living Skills 20.28 and 3.33, for Orientation & Mobility Skills 5.23 and 2.78 and for Application of Technology 7.30 and 3.90. The respondents were grouped into Low, Moderate and High.

The respondents whose sub skills fall below x-0.5 SD were classified into Low sub skills group, if the respondents fall above x+0.5 SD, they were classified into Higher sub skills group. The respondents whose sub skills fall

between mean -0.5 SD and mean +0.5 SD were classified as Moderate sub skills group. The distribution of respondents through classification is given below:

Table 4.3 (a): Level of Acquisition of Different Sub Skills of Expanded Core Curriculum among blind students

S.No.	Skills	Level					
		Low		Moderate		High	
		No.	%	No.	%	No.	%
1.	Academic Skills	17	24	28	39	25	37
2.	Career Education	19	27	30	42	21	31
3.	Independent Living Skills	25	35	33	47	12	18
4.	Orientation & Mobility Skills	18	25	32	45	20	30
5.	Application of Technology	16	23	32	45	22	32

Pertaining to the skills of acquisition by blind students, the results for the table 4.3(a) indicate that a majority of students were at moderate level. In Academic Skills 24% at lower level but 37% at higher level; in Career Education 31% at higher level and 27% at lower level. But in Independent Living Skills, only 18% at higher level and 35% at lower level; Orientation and Mobility Skills, 25% of the students were at lower level and 30% at higher level. And in Application of Technology, only 32% secured higher score and 23% at lower level.

d. Level of Acquisition of Different Sub Skills of Expanded Core Curriculum among Low Vision Students

The sub skills were calculated for low vision students from the data collected using the checklist. Descriptive statistics was used to find the sub skills and the same is given in the following table.

Table 4.4: Sub Skills of Expanded Core Curriculum among Low Vision Students

Skills	No.	Minimum	Maximum	Mean	SD
Academic Skills	50	5.00	34.00	21.43	5.73
Career Education	50	12.00	37.00	24.55	4.99
Independent Living Skills	50	16.00	30.00	23.18	3.58
Application of Technology	50	0.00	20.00	6.76	6.41

The above table 4.4 shows that the sub skills for Academic skills vary between a minimum of 5 to a maximum of 34, for Career Education between 12 to 37, for Independent Living Skills between 16 to 30 and for Application of Technology between 0 to 20. Higher the score, more will be the sub skills for Expanded Core Curriculum. The average sub skills for Academic skills is found to be 21.43 with SD 5.73, for Career Education 24.55 and 4.99, for Independent Living Skills 23.18 and 3.58 and for Application of Technology 6.76 and 6.41. The respondents were grouped into Low, Moderate and High.

The respondents whose sub skills fall below x-0.5 SD were classified into Low sub skills group, if the respondents fall above x+0.5 SD, they were classified into Higher sub skills group. The respondents whose sub skills fall between mean -0.5 SD and mean +0.5 SD were classified as Moderate sub skills group. The distribution of respondents through classification is given below:

Table 4.4 (a): Level of Acquisition of Different Sub Skills of Expanded Core Curriculum among Low Vision Students

S.No.	Skills	Level					
		Low		Moderate		High	
		No.	%	No.	%	No.	%
1.	Academic Skills	13	27	23	47	14	27
2.	Career Education	9	18	29	59	12	22
3.	Independent Living Skills	12	25	18	37	20	39
4.	Application of Technology	17	35	21	43	12	22

Pertaining to the skills of acquisition by low vision students, the results for the table 4.4(a) indicate that a majority of students were at moderate level. In Academic Skills 27% were at lower level and the same percentage was acquired at higher level; in Career Education 22% at higher level and only 18% at lower level. But in Independent Living Skills, 39% at higher level and 25% at lower level. And in Application of Technology, only 22% secured higher score and 35% at lower level.

e. Acquisition of Academic skills among Blind Students

Academic skills constitute of five major areas and scores of the skills are given in the following table.

Table 4.5: Academic Skills of Blind Students

S. No.	Skills	Maximum Score Assigned	Average Score Obtained	Level of Skill (%)
I	**Academic Skills**			
1.	Fluent Reading	2	1.43	72
2.	Use of Slate & Stylus and Braille Writing	10	8.96	90
3.	Application of Nemeth Code	10	2.49	25
4.	Abacus Usage	10	1.69	17
5.	Use of Scientific Notation	10	0.53	5

Pertaining to the Academic skills of blind students, 90% of students were able to write in slate and stylus, whereas only 25% used Nemeth code in Mathematics and 5% of students used scientific codes to learn Science subject. Though students scored 72% in reading Braille fluently, only 17% of students used Abacus for doing Mathematical calculations.

Components of Academic Skills and Level of Acquisition

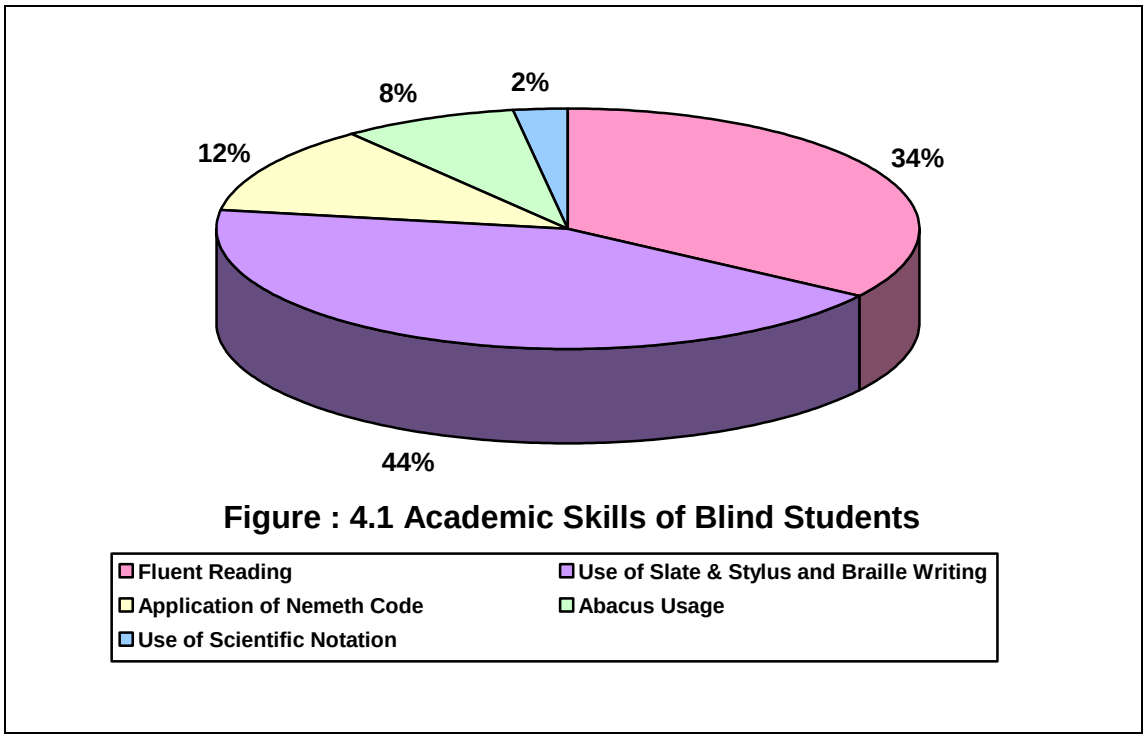

Figure : 4.1 Academic Skills of Blind Students

f. Acquisition of Orientation and Mobility Skills among Blind Students

Orientation and Mobility skills constitute of three major areas and scores of the skills are given in the following table.

Table 4.6: Orientation and Mobility Skills of Blind Students

S. No.	Skills	Maximum Score Assigned	Average Score Obtained	Level of Skill (%)
II	**Orientation and Mobility Skills**			
1.	Protective Technique	4	2.44	61
2.	Sighted Guide Technique	4	2.26	57
3.	Cane Technique	2	0.6	30

Pertaining to the skills of Orientation and Mobility, blind students scored 61% in protective techniques which include upper, lower arm techniques and 57% in sighted guide techniques. But only 30% of students were able to use cane techniques.

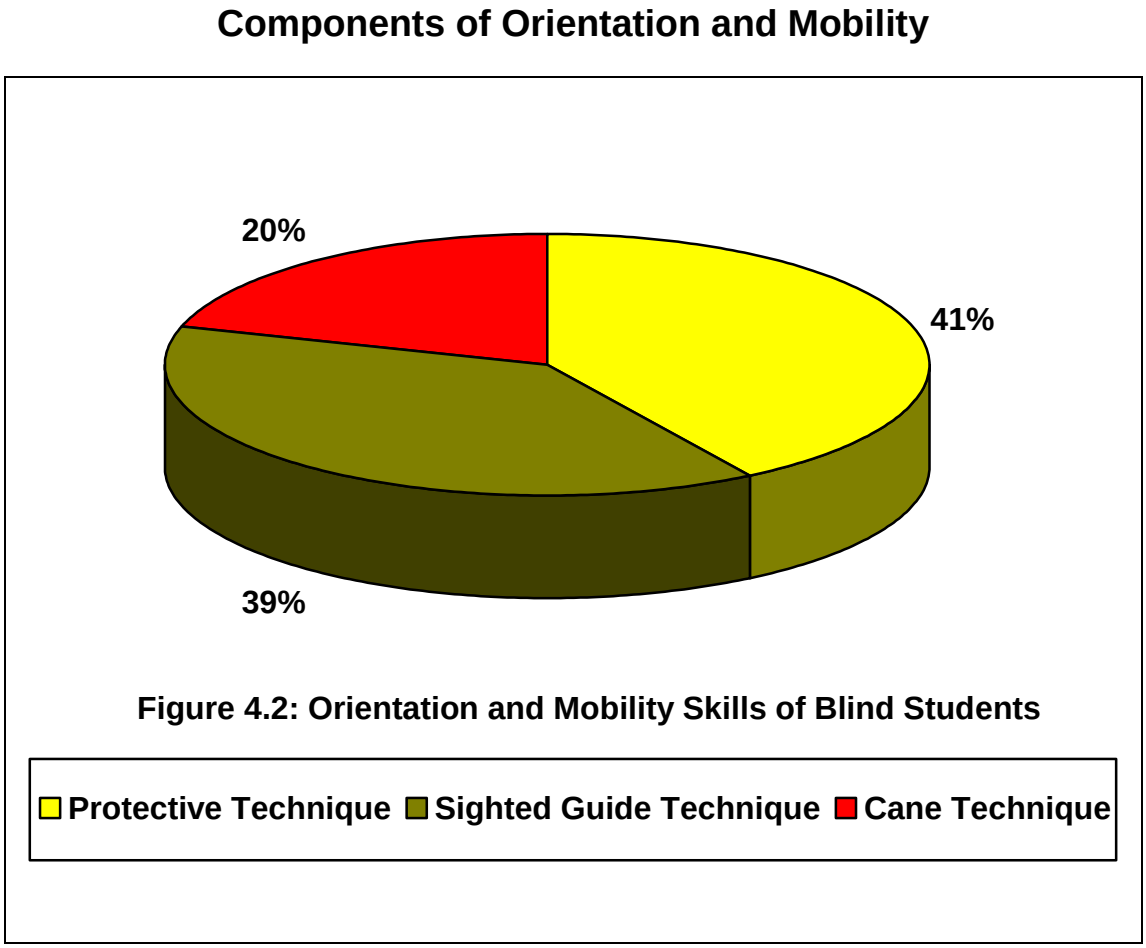

Figure 4.2: Orientation and Mobility Skills of Blind Students

g. Application of Technology among Blind Students

Application of Technology constitutes of three major areas and scores of the skills are given in the following table.

Table 4.7: Application of Technology among Blind Students

S.No.	Skills	Maximum Score Assigned	Average Score Obtained	Level of Skill (%)
III.	**Application of Technology**			
1	Use of Tape Recorder for Learning	10	6.07	61
2	Keyboarding	10	0.39	4
3	Computer Operation	10	0.94	9

With regard to Application of Technology, 61% of blind students used tape recorder for learning. Whereas only 4% of students had the knowledge of keyboarding and 9% could operate computer independently.

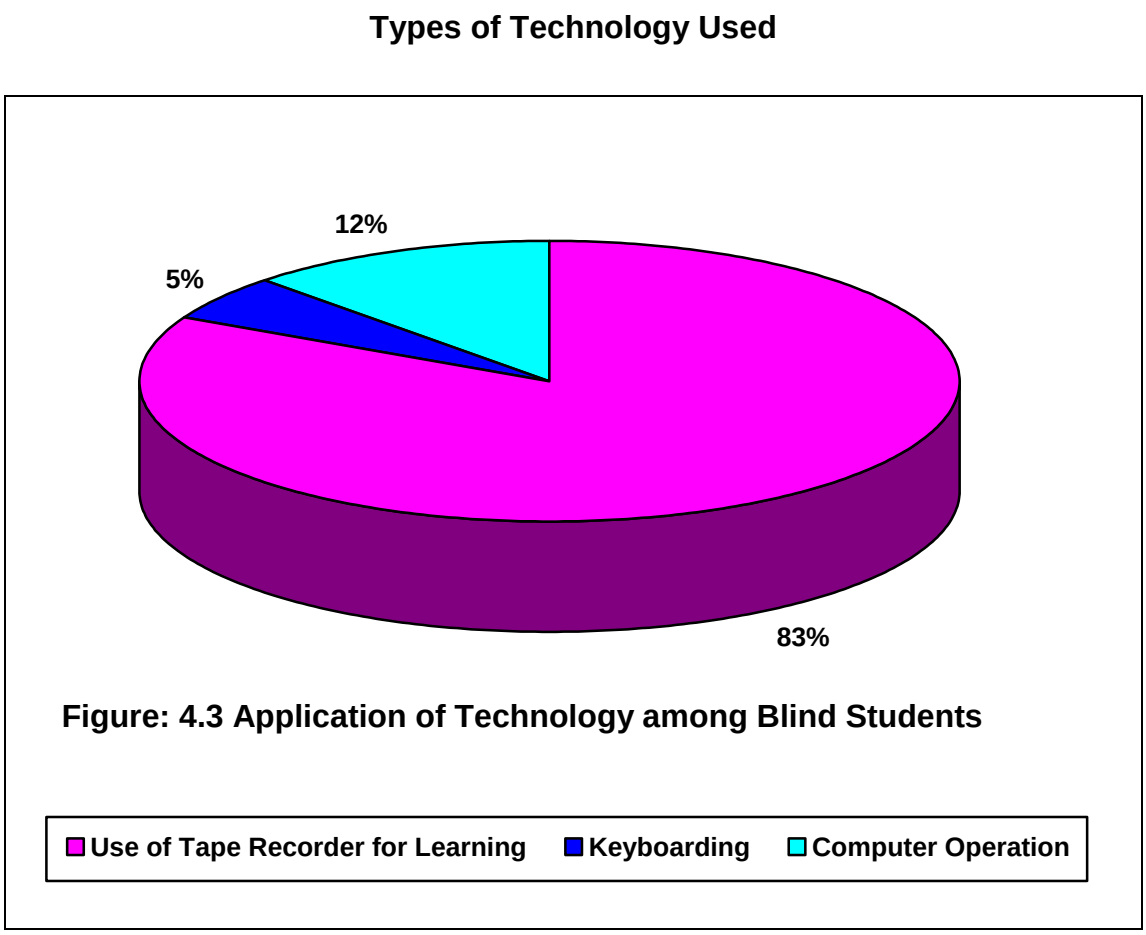

Figure: 4.3 Application of Technology among Blind Students

h. Acquisition of Academic Skills among Low Vision Students

Academic skills constitute of one major area and scores of the skill is given in the following table.

Table 4.8: Academic Skills of Low Vision Students

S. No.	Skills	Maximum Score Assigned	Average Score Obtained	Level of Skill (%)
I	**Type of Learning Medium**			
1.	Using Print Material with Magnifier	2	1.36	68
2.	Using Large Print	2	1.38	69
3.	Using Braille	2	0.68	34

With regard to the Type of Learning Medium in Academic Skills, 68% of low vision students used print material with magnifier for learning, 69% of students used large print and 34% used Braille for learning.

Components of Academic Skills and the Level of Acquisition

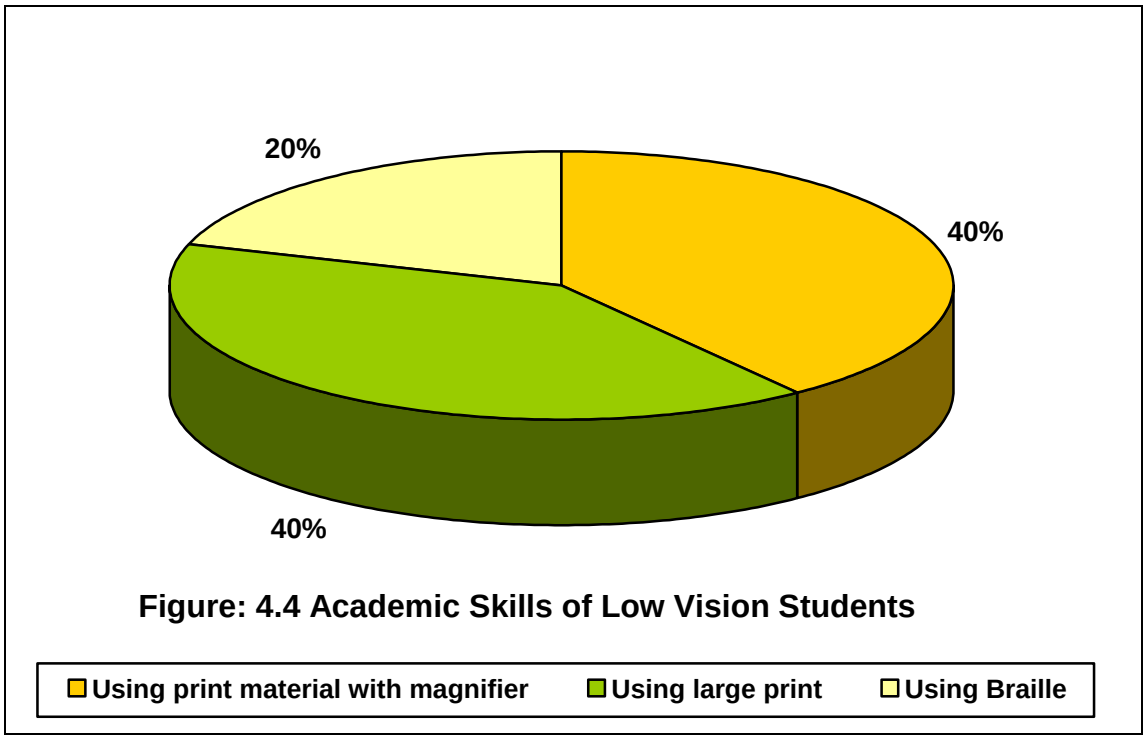

Figure: 4.4 Academic Skills of Low Vision Students

i. Application of Technology among Low Vision Students

Application of Technology constitutes of three major areas and scores of the skills are given in the following table.

Table 4.9: Application of Technology among Low Vision Students

S. No.	Skills	Maximum Score Assigned	Average Score Obtained	Level of Skill (%)
I	**Application of Technology**			
1	Use of Tape Recorder for Learning	10	3.32	33
2	Keyboarding	10	1.22	12
3	Computer Operation	10	2.26	23

The study results regarding Application of Technology, 33% of low vision students used tape recorder for learning. Whereas only 12% of students had the knowledge of keyboarding and 23% could operate computer independently.

Types of Technology Used

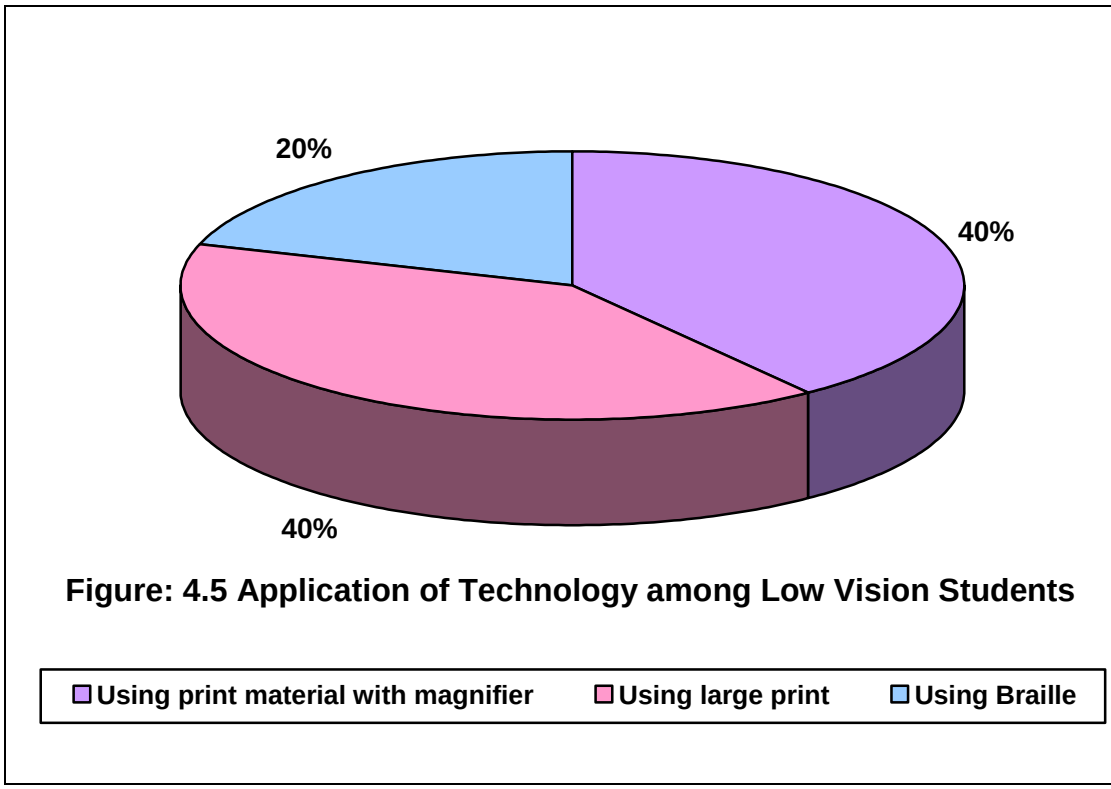

Figure: 4.5 Application of Technology among Low Vision Students

h. Comparison between Blind and Low Vision Students with respect to Application of Technology

Application of Technology constitutes of three major areas and scores of the skills are given in the following table.

Table 4.10: Comparison between Blind and Low Vision Students with respect to Application of Technology

S.No.	Skills	Maximum Score Assigned		Average Score Obtained		Level of Skill (%)	
		Blind	Low Vision	Blind	Low Vision	Blind	Low Vision
I	**Application of Technology**						
1.	Use of Tape Recorder for Learning	10	10	6.07	3.32	61	33
2.	Keyboarding	10	10	0.39	1.22	4	12
3.	Computer Operation	10	10	0.94	2.26	9	23

The study results regarding comparison between blind and low vision students with respect to Application of Technology, 61% of blind students used tape recorder for learning compared to low vision students who used only 33%. Whereas 12% of low vision students had the knowledge of keyboarding compared to blind students with only 4% and 23% could operate computer independently compared to blind students with only 9%.

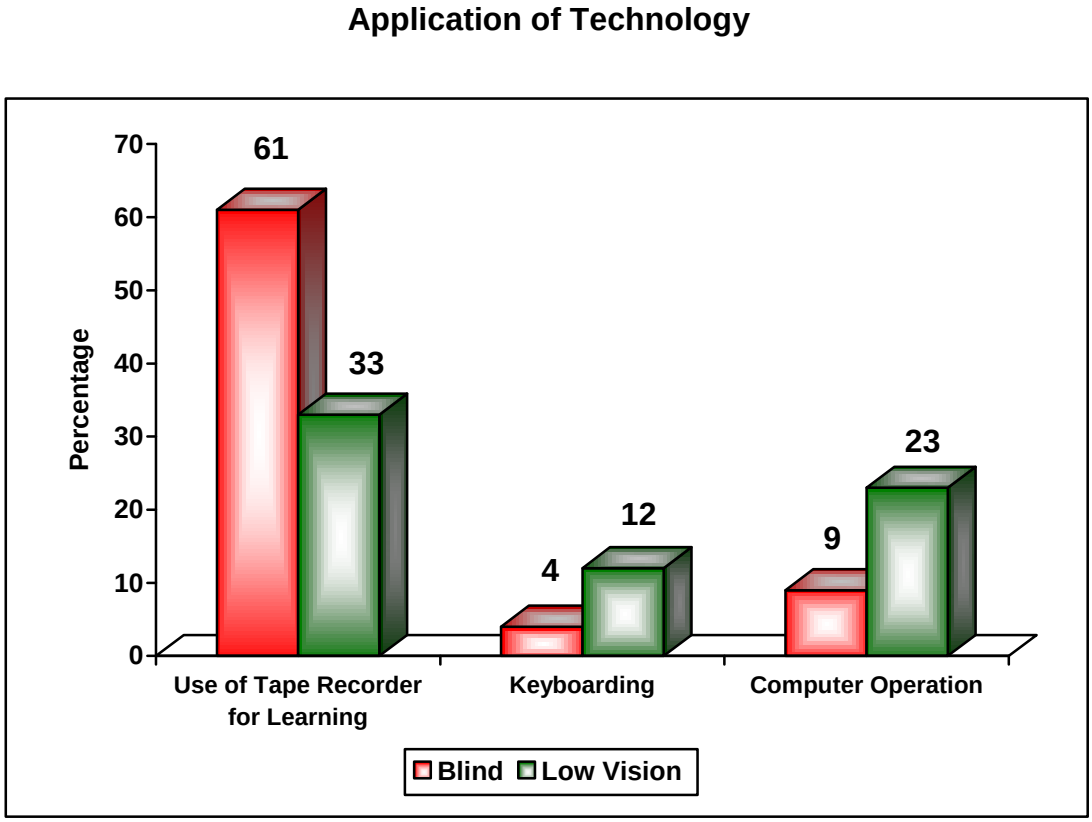

Figure 4.6: Comparison between Blind and Low Vision Students with respect to Application of Technology

4.2 Section II: Quantitative Analysis

4.2.1 Effect of Expanded Core Curricular Skills on Academic Achievement of Blind and Low Vision Students separately with respect to Gender and Grade

An analysis was made to assess the Expanded Core Curricular Skills on Academic Achievement using t-test. The following tables depict the results.

Table 4.11: Testing-wise Mean, SD and t-value for Expanded Core Curricular Skills among Blind Boys and Girls

Skill	Gender	No.	Mean	SD	t - value
Expanded Core Curricular Skills	Boys	52	97.57	16.87	0.88 Ns
	Girls	18	93.56	15.86	

Ns - Not significant

It is evident from the above table that the t-value for Expanded Core Curricular Skills with respect to Gender is 0.88 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind boys and girls in acquisition of Expanded Core Curricular Skills. Therefore the null hypothesis stated that ***"There is no significant difference between blind boys and girls with respect to Expanded Core Curricular Skills."*** **is not rejected**. Hence it is concluded that both blind boys and girls were found to be acquired Expanded Core Curricular Skills to the same extent.

Table 4.12: Testing-wise Mean, SD and t-value for different Sub Skills of Expanded Core Curriculum among blind boys and girls

Sub Skills of Expanded Core Curriculum	Gender	No.	Mean	SD	t-value
Academic skills	Boys	52	37.85	10.66	1.23 Ns
	Girls	18	34.33	10.08	
Career Education	Boys	52	26.64	4.08	0.53 Ns
	Girls	18	27.22	3.90	
Independent Living Skills	Boys	52	20.36	3.28	0.33 Ns
	Girls	18	20.06	3.54	
Orientation & Mobility Skills	Boys	52	5.36	2.75	0.69 Ns
	Girls	18	4.83	2.92	
Application of Technology	Boys	52	7.36	4.18	0.23 Ns
	Girls	18	7.11	3.01	

Ns - Not significant

It is evident from the above table that the t-value for Academic skills with respect to Gender is 1.23 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind boys and girls in acquisition of Academic skills. Therefore the null hypothesis stated that ***"There is no significant difference between blind boys and girls with respect to Academic Skills."*** **is not rejected**. Hence it is concluded that blind boys and girls were found to be acquired Academic Skills to the same extent.

It is evident from the above table that the t-value for Career Education with respect to Gender is 0.53 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind boys and girls in acquisition of Career Education. Therefore the null hypothesis stated that ***"There is no significant difference between blind***

boys and girls with respect to Career Education." **is not rejected**. Hence it is concluded that blind boys and girls were found to be acquired Career Education to the same extent.

It is evident from the above table that the t-value for Independent Living Skills with respect to Gender is 0.33 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind boys and girls in acquisition of Independent Living Skills. Therefore the null hypothesis stated that ***"There is no significant difference between blind boys and girls with respect to Independent Living Skills"*** **is not rejected**. Hence it is concluded that blind boys and girls were found to be acquired Independent Living Skills to the same extent.

It is evident from the above table that the t-value for Orientation & Mobility Skills with respect to Gender is 0.69 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind boys and girls in acquisition of Orientation & Mobility Skills. Therefore the null hypothesis stated that ***"There is no significant difference between blind boys and girls with respect to Orientation and Mobility Skills"*** **is not rejected**. Hence it is concluded that blind boys and girls were found to be acquired Orientation & Mobility Skills to the same extent.

It is evident from the above table that the t-value for Application of Technology with respect to Gender is 0.23 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind boys and girls in acquisition of Application of Technology. Therefore the null hypothesis stated that ***"There is no significant difference between blind boys and girls with respect to Application of Technology"*** **is not rejected**. Hence it is concluded that blind boys and girls were found to be acquired Application of Technology to the same extent.

Table 4.13: Testing-wise Mean, SD and t-value for Expanded Core Curricular Skills among Low Vision Boys and Girls

Skill	Gender	No.	Mean	SD	t - value
Expanded Core Curricular Skills	Boys	36	76.60	12.49	0.51 Ns
	Girls	14	74.21	19.23	

Ns - Not significant

It is evident from the above table that the t-value for Expanded Core Curricular Skills with respect to Gender is 0.51 which is less than the table value of 2.02 at.05 level of significance. There is no significant difference between low vision boys and girls in acquisition of Expanded Core Curricular Skills. Therefore the null hypothesis stated that ***"There is no significant difference between low vision boys and girls with respect to Expanded Core Curricular Skills"*** **is not rejected**. Hence it is concluded that both low vision boys and girls were found to be acquired Expanded Core Curricular Skills to the same extent.

Table 4.14: Testing-wise Mean, SD and t-value for Different Sub Skills of Expanded Core Curriculum among Low Vision Boys and Girls

Sub Skills of Expanded Core Curriculum	Gender	No.	Mean	SD	t-value
Academic skills	Boys	36	21.63	5.02	0.38 Ns
	Girls	14	20.93	7.42	
Career Education	Boys	36	24.20	3.65	0.78 Ns
	Girls	14	25.43	7.48	
Independent Living Skills	Boys	36	23.34	3.53	0.49 Ns
	Girls	14	22.79	3.81	
Application of Technology	Boys	36	7.43	6.05	1.17 Ns
	Girls	14	5.07	7.20	

Ns - Not significant

It is evident from the above table that the t-value for Academic Skills with respect to Gender is 0.38 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision boys and girls in acquisition of Academic Skills. Therefore the null hypothesis stated that ***"There is no significant difference between low vision boys and girls with respect to Academic Skills"*** **is not rejected**. Hence it is concluded that both low vision boys and girls were found to be acquired Academic Skills to the same extent.

It is evident from the above table that the t-value for Career Education with respect to Gender is 0.78 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision boys and girls in acquisition of Career Education. Therefore the null hypothesis stated that ***"There is no significant difference between low vision boys and girls with respect to Career Education"*** **is not rejected**. Hence it is concluded that both low vision boys and girls were found to be acquired Career Education to the same extent.

It is evident from the above table that the t-value for Independent Living Skills with respect to Gender is 0.49 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision boys and girls in acquisition of Independent Living Skills. Therefore the null hypothesis stated that ***"There is no significant difference between low vision boys and girls with respect to Independent Living Skills"*** **is not rejected**. Hence it is concluded that both low vision boys and girls were found to be acquired Independent Living Skills to the same extent.

It is evident from the above table that the t-value for Application of Technology with respect to Gender is 1.17 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision boys and girls in acquisition of Application of Technology. Therefore the null hypothesis stated that ***"there is no significant difference between low vision boys and girls with respect to Application of Technology"*** is

not rejected. Hence it is concluded that both low vision boys and girls were found to be acquired Application of Technology to the same extent.

Table 4.15: Testing-wise Mean, SD and t-value for Expanded Core Curricular Skills among Different Grades of Blind Students

Skill	Grade	No.	Mean	SD	t - value
Expanded Core Curricular Skills	Secondary grade	19	96.65	18.22	0.03 Ns
	Higher Secondary grade	51	96.51	16.12	

Ns - Not significant

It is evident from the above table that the t-value for Expanded Core Curricular Skills with respect to Grade is 0.03 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind secondary grade and higher secondary grade students in acquisition of Expanded Core Curricular Skills. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of blind students with respect to Expanded Core Curricular Skills"*** **is not rejected**. Hence it is concluded that both blind secondary grade and higher secondary grade students were found to be acquired Expanded Core Curricular Skills to the same extent.

Table 4.16: Testing-wise Mean, SD and t-value for Different Sub Skills of Expanded Core Curriculum among Different Grades of Blind Students

Sub Skills of Expanded Core Curriculum	Grade	No.	Mean	SD	t-value
Academic skills	Secondary grade	19	39.45	10.75	1.25 Ns
	Higher Secondary grade	51	35.98	10.43	
Career Education	Secondary grade	19	27.20	4.38	0.54 Ns
	Higher Secondary grade	51	26.63	3.90	
Independent Living Skills	Secondary grade	19	19.55	3.22	1.16 Ns
	Higher Secondary grade	51	20.57	3.35	
Orientation & Mobility Skills	Secondary grade	19	4.80	3.17	0.81 Ns
	Higher Secondary grade	51	5.39	2.62	
Application of Technology	Secondary grade	19	5.65	3.99	2.29 Ns
	Higher Secondary grade	51	7.94	3.71	

Ns - Not significant

It is evident from the above table that the t-value for Academic Skills with respect to Gender is 1.25 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind secondary grade and higher secondary grade students in acquisition of Academic Skills. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of blind students with respect to Academic Skills"*** **is not rejected**. Hence it is concluded that blind secondary grade and higher secondary grade students were found to be acquired Academic Skills to the same extent.

It is evident from the above table that the t-value for Career Education with respect to Grade is 0.54 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind

secondary grade and higher secondary grade students in acquisition of Career Education. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of blind students with respect to Career Education."*** **is not rejected**. Hence it is concluded that blind secondary grade and higher secondary grade students were found to be acquired Career Education to the same extent.

It is evident from the above table that the t-value for Independent Living Skills with respect to Gender is 1.16 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind secondary grade and higher secondary grade students in acquisition of Independent Living Skills. Therefore the hypothesis stated that ***"There is no significant difference among different grades of blind students with respect to Independent Living Skills"*** **is not rejected**. Hence it is concluded that blind secondary grade and higher secondary grade students were found to be acquired Independent Living Skills to the same extent.

It is evident from the above table that the t-value for Orientation & Mobility Skills with respect to Grade is 0.81 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind secondary grade and higher secondary grade students in acquisition of Orientation & Mobility Skills. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of blind students with respect to Orientation and Mobility Skills"*** **is not rejected**. Hence it is concluded that blind secondary grade and higher secondary grade students were found to be acquired Orientation & Mobility Skills to the same extent.

It is evident from the above table that the t-value for Application of Technology with respect to Grade is 2.29 which is less than the table value of 2.00 at 0.05 level of significance. There is no significant difference between blind secondary grade and higher secondary grade students in acquisition of Application of Technology. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of blind students with***

respect to Application of Technology" **is not rejected**. Hence it is concluded that blind secondary grade and higher secondary grade students were found to be acquired Application of Technology to the same extent.

Table 4.17: Testing-wise Mean, SD and t-value for Expanded Core Curricular Skills among Different Grades of Low Vision Students

Skill	Grade	No.	Mean	SD	t - value
Expanded Core Curricular Skills	Secondary grade	22	71.67	12.92	1.81 Ns
	Higher Secondary grade	28	79.11	15.11	

Ns - Not significant

It is evident from the above table that the t-value for Expanded Core Curricular Skills with respect to Grade is 1.81 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision secondary grade and higher secondary grade students in acquisition of Expanded Core Curricular Skills. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of low vision students with respect to Expanded Core Curricular Skills"*** **is not rejected**. Hence it is concluded that both low vision secondary grade and higher secondary grade students were found to be acquired Expanded Core Curricular Skills to the same extent.

Table 4.18: Testing-wise Mean, SD and t-value for Different Sub Skills of Expanded Core Curriculum among Different Grades of Low Vision Students

Sub Skills of Expanded Core Curriculum	Grade	No.	Mean	SD	t-value
Academic Skills	Secondary grade	22	21.33	5.93	0.10 Ns
	Higher Secondary grade	28	21.50	5.69	
Career Education	Secondary grade	22	24.57	4.47	0.03 Ns
	Higher Secondary grade	28	24.54	5.43	
Independent Living Skills	Secondary grade	22	22.52	3.70	1.12 Ns
	Higher Secondary grade	28	23.68	3.48	
Application of Technology	Secondary grade	22	3.24	4.13	3.75 Ns
	Higher Secondary grade	28	9.39	6.60	

Ns - Not significant

It is evident from the above table that the t-value for Academic Skills with respect to Grade is 0.10 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision secondary grade and higher secondary grade students in acquisition of Academic Skills. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of low vision students with respect to Academic Skills"*** **is not rejected**. Hence it is concluded that both low vision secondary grade and higher secondary grade students were found to be acquired Academic Skills to the same extent.

It is evident from the above table that the t-value for Career Education with respect to Grade is 0.03 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision secondary grade and higher secondary grade students in acquisition of

Career Education. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of low vision students with respect to Career Education"*** **is not rejected**. Hence it is concluded that both low vision secondary grade and higher secondary grade students were found to be acquired Career Education to the same extent.

It is evident from the above table that the t-value for Independent Living Skills with respect to Grade is 1.12 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision secondary grade and higher secondary grade students in acquisition of Independent Living Skills. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of low vision students with respect to Independent Living Skills"*** **is not rejected**. Hence it is concluded that both low vision secondary grade and higher secondary grade students were found to be acquired Independent Living Skills to the same extent.

It is evident from the above table that the t-value for Application of Technology with respect to Grade is 3.75 which is less than the table value of 2.02 at 0.05 level of significance. There is no significant difference between low vision secondary grade and higher secondary grade students in acquisition of Application of Technology. Therefore the null hypothesis stated that ***"There is no significant difference among different grades of low vision students with respect to Application of Technology"*** **is not rejected**. Hence it is concluded that both low vision secondary grade and higher secondary grade students were found to be acquired Application of Technology to the same extent.

4.2.2 Influence of Expanded Core Curricular Skills on Academic Achievement by Considering Grade as Covariate among Blind and Low Vision Students separately

An analysis was made to find out the influence of Expanded Core Curricular Skills on Academic Achievement using ANOVA test. The following tables reveal the results.

Table 4.19: Summary of One Way ANCOVA for Expanded Core Curricular Skills with respect to Grade among Blind Students

Source of variance	df	Ss	Mss	F value
Grade	1	105.27	105.27	1.31 Ns
Expanded Core Curricular Skills	30	2476.88	79.90	0.99 Ns
Error	38	3056.19	80.43	
Total	70	207523.50		

Ns - Not significant

From the table it is evident that the adjusted F-value for Grade is 1.31 and Expanded Core Curricular Skills is 0.99 which is not significant. It indicates that mean scores of Expanded Core Curricular Skills do not differ significantly when Grade was taken as covariate. Therefore the null hypothesis stated that ***"There is no significant influence of Expanded Core Curricular Skills on Academic Achievement by considering Grade as covariate"*** **is not rejected**. Hence it is concluded that Grade did not influence in acquiring Expanded Core Curricular Skills among blind students and hence it was found that all the blind students in Grades were found to be at the same level in acquiring Expanded Core Curricular Skills.

Table 4.20: Summary of One Way ANCOVA for Expanded Core Curricular Skills with respect to Grade among Low Vision Students

Source of variance	df	Ss	Mss	F value
Grade	1	180.84	180.84	2.91 Ns
Expanded Core Curricular Skills	30	2645.52	91.23	1.47 Ns
Error	18	1118.73	62.15	
Total	50	127533.25		

Ns - Not significant

From the table it is evident that the adjusted F-value for Grade is 2.91 and Expanded Core Curricular Skills is 1.47 which is not significant. It indicates that mean scores of Expanded Core Curricular Skills do not differ significantly when Grade was taken as covariate. Therefore the null hypothesis stated that ***"There is no significant influence of Expanded Core Curricular Skills on Academic Achievement by considering Grade as covariate"*** **is not rejected**. Hence it is concluded that Grade did not influence in acquiring Expanded Core Curricular Skills among low vision students and hence it was found that all the low vision students in Grades were found to be at the same level in acquiring Expanded Core Curricular Skills.

4.2.3 Relationship between Expanded Core Curricular Skills and Academic Achievement

An analysis was made to find out the relationship between Expanded Core Curricular Skills and Academic Achievement using Correlation Coefficient. The results are presented in the following tables,

Table 4.21: Correlation between Expanded Core Curricular Skills and Academic Achievement among Blind Students

Skills	N	Mean	SD	Expanded Core Curriculum	Academic Achievement
Expanded Core Curricular Skills	70	96.78	16.59	1	-0.52 *
Academic Achievement	70	53.52	8.88	-0.52 *	1

*** Correlation is significant at 0.05 level**

The correlation between the Expanded Core Curricular Skills and Academic Achievement of blind students has been calculated and depicted in Table 4.21. It is evident that the correlated value -0.52 is significant at 5% level of significance. Therefore the null hypothesis stated that ***"There is no significant correlation between Expanded Core Curricular Skills and Academic Achievement among blind students."*** **is rejected**. Hence it is concluded that there is significant negative correlation between Expanded Core Curricular Skills and Academic Achievement of blind students.

Table 4.22: Correlation between Academic Skills and Application of Technology among Blind Students

Skills	N	Mean	SD	Academic Skills	Application of Technology
Academic Skills	70	37.04	10.61	1	0.07 Ns
Application of Technology	70	7.40	3.83	0.07 Ns	1

Ns - Not Significant

The correlation between the Academic Skills and Application of Technology of blind students has been calculated and depicted in Table 4.22. It is evident that the correlated value 0.07 is not significant either at 1% or 5% level of significance. Therefore the null hypothesis stated that ***"There is no significant correlation between Academic Skills and Application of Technology among blind students."*** **is not rejected**. Hence it is concluded that there is no significant correlation between Academic Skills and Application of Technology **o**f blind students.

Table 4.23: Correlation between Career Education and Orientation and Mobility Skills among Blind Students

Skills	N	Mean	SD	Career Education	Orientation and Mobility Skills
Career Education	70	26.69	3.95	1	0.17 Ns
Orientation and Mobility Skills	70	5.30	2.73	0.17 Ns	1

Ns - Not significant

The correlation between the Career Education and Orientation and Mobility Skills of blind students has been calculated and depicted in Table 4.23. It is evident that the correlated value 0.17 is not significant either at 1% or 5% level of significance. Therefore the null hypothesis stated that ***"There is no significant correlation between Career Education and Orientation and Mobility Skills among blind students."*** **is not rejected**. Hence it is concluded that there is no significant correlation between Career Education and Orientation and Mobility Skills of blind students.

Table 4.24: Correlation between Braille Reading Fluency and Abacus Usage among Blind Students

Skills	N	Mean	SD	Braille Reading Fluency	Abacus Usage
Braille Reading Fluency	70	8.70	2.65	1	-0.02 Ns
Abacus Usage	70	1.69	2.20	-0.02 Ns	1

Ns - Not significant

The correlation between the Braille reading fluency and Abacus usage of blind students has been calculated and depicted in Table 4.24. It is evident that the correlated value -0.02 is not significant either at 1% or 5% level of significance. Therefore the null hypothesis had stated that ***"There is no significant correlation between Braille Reading Fluency and Abacus Usage among blind students."*** **is not rejected**. Hence it is concluded that

there is no significant correlation between Braille reading fluency and Abacus usage of blind students.

Table 4.25: Correlation between Independent Living Skills and Orientation and Mobility Skills among Blind Students

Skills	N	Mean	SD	Independent Living Skills	Orientation and Mobility Skills
Independent Living Skills	70	20.36	3.29	1	0.54 **
Orientation and Mobility Skills	70	5.30	2.73	0.54 **	1

**** Correlation is significant at 0.01 level**

The correlation between the Independent Living Skills and Orientation and Mobility Skills of blind students has been calculated and depicted in Table 4.25. It is evident that the correlated value is 0.54 which is significant at 1% level of significance. Therefore the null hypothesis stated that ***"There is no significant correlation between Independent Living Skills and Orientation and Mobility Skills among blind students."*** **is rejected**. Hence it is concluded that Independent Living Skills is positively correlated with Orientation and Mobility Skills of blind students.

Table 4.26: Correlation between Expanded Core Curricular Skills and Academic Achievement among Low Vision Students

Skills	N	Mean	SD	Expanded Core Curricular Skills	Academic Achievement
Expanded Core Curricular Skills	50	75.76	14.44	1	0.04 Ns
Academic Achievement	50	50.40	9.10	0.04 Ns	1

Ns - Not significant

The correlation between the Expanded Core Curricular Skills and Academic Achievement of low vision students has been calculated and

depicted in Table 4.26. It is evident that the correlated value 0.04 is not significant either at 1% or 5% level of significance. Therefore the null hypothesis stated that ***"There is no significant correlation between Expanded Core Curricular Skills and Academic Achievement among low vision students."*** **is not rejected**. Hence it is concluded that there is no significant correlation between Expanded Core Curricular Skills and Academic Achievement of low vision students.

Table 4.27: Correlation between Academic Skills and Application of Technology among Low Vision Students

Skills	N	Mean	SD	Academic Skills	Application of Technology
Academic Skills	50	21.48	5.68	1	0.33 *
Application of Technology	50	6.62	6.41	0.33*	1

*** Correlation is significant at 0.05 level**

The correlation between the Academic Skills and Application of Technology of low vision students has been calculated and depicted in Table 4.27. It is evident that the correlated value is 0.33 which is significant at 5% level of significance. Therefore the null hypothesis stated that ***"There is no significant correlation between Academic Skills and Application of Technology with respect to low vision students."*** **is rejected**. Hence it is concluded that Academic Skills is positively correlated with Application of Technology of low vision students.

4.2.4 Regression analysis between Academic Achievement and Expanded Core Curricular Skills among Blind and Low Vision Students separately

Table 4.28: Regression Analysis of Expanded Core Curricular Skills among Blind Students on Academic Achievement

Predictor	β	t	Sig.	R^2	F	Sig.
Expanded core curricular skills	-0.52	-0.43	0.67	0.00	0.18	0.67

The table above presents the summary of the regression analysis of Expanded Core Curricular Skills predicting the academic achievement among blind students. The results of the present study show that Expanded Core Curricular Skills have a crucial role in academic achievement. Expanded Core Curricular Skills seems to have a significant influence with -0.52 on the academic achievement of blind students.

Table 4.29: Regression Analysis of Expanded Core Curricular Skills among Low Vision Students on Academic Achievement

Predictor	β	t	Sig.	R^2	F	Sig.
Expanded core curricular skills	0.04	0.29	0.77	0.00	0.08	0.77

The table above presents the summary of the regression analysis of Expanded Core Curricular Skills predicting the academic achievement among low vision students. The results of the present study show that Expanded Core Curricular Skills have a crucial role in academic achievement. Expanded Core Curricular Skills seems to have no significant influence with 0.04 on the academic achievement of low vision students.

Based on the results obtained the summary and findings are presented in Chapter V.