

A Survey of the Use of Various Sources of Information by the Visually Challenged Students Pursuing Higher Education in Karnataka State

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ABSTRACT

Paper depicts the result of the survey conducted to identify the degree of use of various printed information resources like text books, subject books, magazines and news papers, grey information resources and journals by the visually challenged students and research scholars. Further researcher has endeavored to identify the assistance rendered by parents, teachers, library staff and technical personnel of NGOs for reading information resource to fulfill their academic needs. Also explains the familiarity of the visually challenged with the Braille books.

Keywords: Reading Habits, Visually Challenged; Information Sources, Use Pattern; Braille Books, Use Pattern.

INTRODUCTION

Many libraries in the state of Karnataka are to be equipped with assistive technologies including hardware and software for the self-reliance of the visually challenged students pursuing higher education and research. Hence, there is really felt-need for the development of full-fledged library facilities comprising of print resources like text books, subject books, magazines, newspapers, grey literature and journals as well as, Braille books in academic institutions where the students seek admission for studying various courses leading to the award of degrees, including pursuit of research programmes. In addition to the building of library collections, there is need to establish learning resource centre with assistive technology (Shinde, 2016)

The main objectives of the study are to know the extent of use of text books, subject books, reference sources, grey literature, magazines and newspapers and journals by the visually challenged students pursuing various courses in Karnataka. The study also focuses on the extent of use of Braille books and also to know to what extent various groups of people assist the visually challenged by reading the text-books and other sources of information (Khan, , & , 2016).

Methodology:

The investigator has personally visited the higher educational institutions and libraries that are extending library and information services to the visually challenged students and research scholars. Responses were obtained from the 801 visually challenged students for the closed end interview schedule. The data thus obtained have been tabulated, analyzed and interpreted to arrive at the valid findings.

Table 1. Responses on the extent of use of text books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
Not at all	Frequency	0	9	2	7	8	1	9
	Percentage	0.0%	1.8%	0.7%	1.4%	1.0%	2.8%	1.1%
Slightly	Frequency	24	56	2	78	77	3	80
	Percentage	8.1%	11.1%	0.7%	15.6%	10.1%	8.3%	10.0%
Moderate	Frequency	69	121	56	134	173	17	190
	Percentage	23.4%	23.9%	18.5%	26.9%	22.6%	47.2%	23.7%
High	Frequency	171	283	214	240	440	14	454
	Percentage	58.0%	55.9%	70.9%	48.1%	57.5%	38.9%	56.7%
Very High	Frequency	31	37	28	40	67	1	68
	Percentage	10.5%	7.3%	9.3%	8.0%	8.8%	2.8%	8.5%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .107 P=.055		CV= .287 P= .000		CV= .129 P=.010		X ² =780.280 P=.000

Table 1 depicts the extent of use of text books. From the reports given in the present study, a large percentage of respondents representing 454 (56.7 %) has expressed that they use the text books to an higher extent .68(8.5%) of respondents rely upon text books to the highest extent. It is 190 (23.7%) respondents who have expressed that they use the text books to a moderate extent. It is only 90 (10%) respondents who have stated that they use text books to a little extent and 9 among the respondents do not use the text books at all which account for just 1.1% in the entire population.

Among the Under Graduate and Post Graduate student respondents, a large percentage of Under Graduate students rely upon text books to an higher extent. 15 (41.7%) of the Post Graduate students and 507 (66.3%) of the Under Graduate students rely upon text books to an higher extent. Hence, it is clear from the table that text books are useful to an higher extent for the visually challenged students who are studying under graduate courses.

Table 2. Responses on the extent of use of subject books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
Not at all	Frequency	10	26	8	28	34	2	36
	Percentage	3.4%	5.1%	2.6%	5.6%	4.4%	5.6%	4.5%
Slightly	Frequency	9	13	0	22	22	0	22
	Percentage	3.1%	2.6%	0.0%	4.4%	2.9%	0.0%	2.7%
Moderate	Frequency	30	49	20	59	75	4	79
	Percentage	10.2%	9.7%	6.6%	11.8%	9.8%	11.1%	9.9%
High	Frequency	191	316	212	295	489	18	507

	Percentage	64.7%	62.5%	70.2%	59.1%	63.9%	50.0%	63.3%
Very High	Frequency	55	102	62	95	145	12	157
	Percentage	18.6%	20.2%	20.5%	19.0%	19.0%	33.3%	19.6%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .048 P=.765		CV= .180 P= .000		CV= .086 P=.209		X ² =1007.483 P=.000

Table 2 shows the extent of use of subject books. Among the respondents, 507 (63.3%) use to an higher extent and 157 (19.6%) use to an highest extent. This clearly indicates that subject oriented books like text books are also of use to the visually challenged students to a greater extent .It is only 36 (4.5%) of the respondents who have felt that the subject looks are not at all useful. Considering the opinion of Under Graduate and Post Graduate students respondents, 12 (33.3%) of the Post Graduate students and 145 (19%) of the Under Graduate students use subject books in the highest range. From this it can be deduced that some of the Post Graduate students rely upon subject books to a great extent when compared to the Under Graduate students. The percentage of Post Graduate students who rely upon subject books in the highest range account for 33.3%.

Table 3. Responses on the extent of use of reference sources

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
Not at all	Frequency	54	75	34	95	126	3	129
	Percentage	18.3%	14.8%	11.3%	19.0%	16.5%	8.3%	16.1%
Slightly	Frequency	29	48	18	59	73	4	77
	Percentage	9.8%	9.5%	6.0%	11.8%	9.5%	11.1%	9.6%
Moderate	Frequency	121	254	168	207	364	11	375
	Percentage	41.0%	50.2%	55.6%	41.5%	47.6%	30.6%	46.8%
High	Frequency	76	113	62	127	173	16	189
	Percentage	25.8%	22.3%	20.5%	25.5%	22.6%	44.4%	23.6%
Very High	Frequency	15	16	20	11	29	2	31
	Percentage	5.1%	3.2%	6.6%	2.2%	3.8%	5.6%	3.9%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .097 P=.112		CV= .204 P= .000		CV= .116 P=.028		X ² =446.672 P=.000

Table 3 shows the extent of use of the reference sources by the visually challenged students. Among the respondents, 375 students representing 46.8% use reference sources to a moderate extent.189 respondents representing 23.6% use to an higher extent. 31 respondents amounting to 3.9% use reference source to an highest extent. However 77 (9.6%) respondents use to a little extent and 129 (16.1%) respondents do not need reference sources such as encyclopedias, handbooks, directories, manuals and so forth.. therefore it is clear from the table that a large percentage of visually challenged students use the

reference sources to a moderate extent. Further, 173 (22.6 %) of Under Graduate students and 16 (44.4 %) of Post Graduate students use the reference sources to a higher extent. Thus it is inferred that more number of Post Graduate students use reference sources than Under graduate students.

Table 4. Responses on the extent of use of grey sources of information

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
Not at all	Frequency	263	463	266	460	692	34	726
	Percentage	89.2%	91.5%	88.1%	92.2%	90.5%	94.4%	90.6%
Slightly	Frequency	7	11	12	6	18	0	18
	Percentage	2.4%	2.2%	4.0%	1.2%	2.4%	0.0%	2.2%
Moderate	Frequency	17	16	16	17	31	2	33
	Percentage	5.8%	3.2%	5.3%	3.4%	4.1%	5.6%	4.1%
High	Frequency	8	16	8	16	24	0	24
	Percentage	2.7%	3.2%	2.6%	3.2%	3.1%	0.0%	3.0%
Very High	Frequency	0	0	0	0	0	0	0
	Percentage	0%	0%	0%	0%	0%	0%	0%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= 0.64 P=.343		CV= .104 P= .035		CV= .053 P=.527		X ² =1841.022 P=.000

Table 4 depicts the extent of the use of grey sources such as projects works, dissertations, technical reports, institutional reports, proceedings of conferences, seminars and workshops which are published in limited number of copies and not available at book selling channels. Among the respondents, 33(4.1%) use grey sources to moderate extent and 24(3.0%) use to an higher extent. However, a large majority representing 726(90.6%) do not need the grey sources.

Table 5 .Responses on the extent of use of magazines and newspapers

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
Not at all	Frequency	221	379	216	384	575	25	600
	Percentage	74.9%	74.9%	71.5%	77.0%	75.2%	69.4%	74.9%
Slightly	Frequency	40	89	46	83	124	5	129
	Percentage	13.6%	17.6%	15.2%	16.6%	16.2%	13.9%	16.1%
Moderate	Frequency	17	25	24	18	40	2	42
	Percentage	5.8%	4.9%	7.9%	3.6%	5.2%	5.6%	5.2%
High	Frequency	17	13	16	14	26	4	30
	Percentage	5.8%	2.6%	5.3%	2.8%	3.4%	11.1%	3.7%
		Frequency	0	0	0	0	0	0

A Survey of the Use of Various Sources of Information by the Visually Challenged Students Pursuing Higher Education in Karnataka State

Very High	Percentage	0%	0%	0%	0%	0%	0%	0%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test Statistics		CV= 0.95 P=.066		CV= .116 P= .013		CV= .085 P=.125		X ² =1093.157 P=.000

Table 5 furnishes responses of visually challenged students regarding the extent of use of newspapers and magazines. Among the respondents, only 30(3.7%) use to a higher extent, 42(5.2%) use to a moderate extent and 129 respondents representing 16.1% use newspapers and magazines to a little extent. However a large segment representing 600 students do not rely upon newspapers and magazines to meet their academic needs. This segment of non users account for 74.9%. Thus, visually challenged students do not depend much on newspapers and magazines for their academic endeavor.

Table 6 Responses on the extent of use of journals

Responses		Visual Impairment		Gender		Education		Total
		Partial	Totally	Male	Female	UG	PG	
Not at all	Frequency	195	360	222	333	533	22	555
	Percentage	66.1%	71.1%	73.5%	66.7%	69.7%	61.1%	69.3%
Slightly	Frequency	50	74	52	72	114	10	124
	Percentage	16.9%	14.6%	17.2%	14.4%	14.9%	27.8%	15.5%
Moderate	Frequency	16	8	12	12	24	0	24
	Percentage	5.4%	1.6%	4.0%	2.4%	3.1%	0.0%	3.0%
High	Frequency	24	60	12	72	80	4	84
	Percentage	8.1%	11.9%	4.0%	14.4%	10.5%	11.1%	10.5%
Very High	Frequency	10	4	4	10	14	0	14
	Percentage	3.4%	0.8%	1.3%	2.0%	1.8%	0.0%	1.7%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .159 P=.000		CV= .173 P= .000		CV= .085 P=.211		X ² =1266.597 P=.000

Table 6 depicts the extent of the use of journals by the visually challenged students. Among the respondents, 98 students representing 12.2% use journals in the higher range and 24 students representing 3% rely upon journals to a moderate extent. Further, 124 students representing 15.5% use to a little extent. A large segment of 555 student respondents representing 69.3% do not need journals at all. The use of journals is only to a limited extent by a small number of respondents which account for 30.7%. Both Under graduate students and Post Graduate students in small numbers use journals to a limited extent.

Table 7. Responses on the extent of use of Braille books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
Not at all	Frequency	5	13	10	8	13	5	18
	Percentage	1.7%	2.6%	3.3%	1.6%	1.7%	13.9%	2.2%
Slightly	Frequency	9	9	12	6	15	3	18
	Percentage	3.1%	1.8%	4.0%	1.2%	2.0%	8.3%	2.2%
Moderate	Frequency	44	95	54	85	134	5	139
	Percentage	14.9%	18.8%	17.9%	17.0%	17.5%	13.9%	17.4%
High	Frequency	228	358	220	366	564	22	586
	Percentage	77.3%	70.8%	72.8%	73.3%	73.7%	61.1%	73.2%
Very High	Frequency	9	31	6	34	39	1	40
	Percentage	3.1%	6.1%	2.0%	6.8%	5.1%	2.8%	5.0%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .101 P=.085		CV= .149 P= .001		CV= .195 P=.000		X ² =1477.184 P=.000

Table 7 depicts the extent of the use of braille books by the visually challenged students. It is clear from the table that 586 respondents representing 73.2% use braille books available at their residential hostels /centers to an higher extent. Another segment of respondents representing 40(5%) rely upon available braille books to the highest extent. Therefore, 626 student respondents use braille books in the higher range which account for 78.2% in the entire population of respondents. It is therefore inferred that a large majority use the braille books to an higher extent. Among the respondents 139(17.4%) have expressed that they use the braille books to a moderate extent. It is only 18 (2.2%) respondents who have offered negative indicating that the braille books are not at all useful. The table also shows that the use of Braille books is more among the Under Graduate students than Post Graduate students.39 (5.1%) respondents who are Under Graduate students use to an highest extent while 1(2.8%) Post Graduate student use to the highest extent. 564 (73.7%) of Under Graduate respondents and 22 (61.1%) of Post Graduate respondents use to the higher extent. It is also interesting to note that 13(1.7) of Under Graduate respondents and 5(13.9%) of Post Graduate respondents opine that the braille books are not at all useful for them. Hence it is inferred that more of UG students use braille books than the Post Graduate students.

ASSISTANCE FOR READING BOOKS

Table 8. Parents assisting for reading books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
No	Frequency	175	283	148	310	437	21	458
	Percentage	59.3%	55.9%	49.0%	62.1%	57.1%	58.3%	57.2%
Yes	Frequency	120	223	154	189	328	15	343
	Percentage	40.7%	44.1%	51.0%	37.9%	42.9%	41.7%	42.8%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Test statistics	CV= .033 P=.349	CV= .128 P= .000	CV= .005 P=.886	X ² =16.511 P=.000
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Table 8 depicts the responses regarding parents assisting the visually challenged students by reading books. Among the respondents, 343 students representing 42.8% have offered positive response indicating that their parents read out books for them. Majority of the respondents have stated that they do not get the assistance of their parents for reading books. This segment accounts for 57.2% (458) in the entire population of student respondents. Considering the gender wise respondents, 148 (49%) male and 310 (62.1%) female have expressed negative response. It is pertinent to note that a large percentage of female students are not assisted by their parents for reading books. 154 (51%) of the male and 189 (37.9%) of the female get the assistance of their parents. Hence, many of the female students than male do not get the assistance by their parents for reading books.

Table 9. Teachers assisting for reading books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
No	Frequency	201	374	222	353	544	31	575
	Percentage	68.1%	73.9%	73.5%	70.7%	71.1%	86.1%	71.8%
Yes	Frequency	94	132	80	146	221	5	226
	Percentage	31.9%	26.1%	26.5%	29.3%	28.9%	13.9%	28.2%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .062 P=.080		CV= .030 P= .399		CV= .069 P=.051		X ² =152.06 P=.000

Table 9 shows responses regarding teachers assisting visually challenged students by reading books. A large number of respondents have given negative response. Among the respondents, 575 (71.8%) are not getting help of their teachers for reading books. Among the students, more number of Under Graduate . students is assisted by their teachers than the Post Graduate students. 221 (28.9%) Under Graduate . students are assisted by their teachers, whereas among Post Graduate . students, only 5 representing 13.9% are assisted by the teachers.

Table 10. Library staff assisting for reading books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
No	Frequency	262	417	234	445	648	31	679
	Percentage	88.8%	82.4%	77.5%	89.2%	84.7%	86.1%	84.8%
Yes	Frequency	33	89	68	54	117	5	122
	Percentage	11.2%	17.6%	22.5%	10.8%	15.3%	13.9%	15.2%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Test statistics	CV= .086 P=.015	CV= .158 P= .000	CV= .008 P=.819	X ² =387.32 P=.000
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Table 10 reveals the assistance rendered by the library staff in reading books. A small percentage of students are getting assistance of library staff for reading books. Among the respondents, 122 representing 15.2% have stated that the library staff assists them by reading books. On the other hand, 679 respondents representing a large segment of 84.8% have offered negative response. The visually challenged students need the assistance for reading and hence the library staff has to help them by reading books whenever possible. The library staff working at Braille Divisions of Anna Centenary Library, Chennai assists the users by reading books. They also avail the assistance of engineering college students. Volunteers for reading books for visually challenged members.

Table 11. N G O volunteers assisting for reading books

Responses		Visual Impairment		Gender		Education		Total
		Partial	Total	Male	Female	UG	PG	
No	Frequency	263	420	276	407	651	32	683
	Percentage	89.2%	83.0%	91.4%	81.6%	85.1%	88.9%	85.3%
Yes	Frequency	32	86	26	92	114	4	118
	Percentage	10.8%	17.0%	8.6%	18.4%	14.9%	11.1%	14.7%
Total	Frequency	295	506	302	499	765	36	801
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Test statistics		CV= .084 P=.018		CV= .134 P= .000		CV=.022 P=.531		X ² =398.53 P=.000

Table 11 projects the responses regarding volunteers of Non – Government Organizations (NGOs) reading books for the visually challenged. Among the respondents, only 118 (14.7%) have expressed that the volunteers read out books. A large percentage of students have not taken the help of volunteers for reading books. Comparatively more number of totally blind, girl students and undergraduate students are assisted by volunteers when compared to partially blind, boy students at post graduate level.

SUMMARY OF FINDINGS,

1. The visually challenged respondents have expressed that they use text books to an higher extent for their academic purposes. 65.2% of the respondents use the text books prescribed for their courses to a higher extent. It is only 10% of the respondents who have expressed that the use of text books is only to a little extent. Thus, the text books are being used by the visually challenged students to a higher extent. The under-graduate students rely much upon the text books than the post-graduate students
2. The study also revealed that the subject oriented books are being used to a higher extent. Among the respondents, 82.9% rely upon subject oriented books to a higher extent. It is only 2.7% of the respondents who have expressed that the subject oriented books are useful to a little extent. Thus, a large majority of the visually challenged respondents have expressed that the subject oriented books are useful to fulfill their academic needs

3. While considering the extent of use of reference sources such as encyclopedia, dictionaries, manuals, handbooks, gazetteers, and so forth, 46.8% of the respondents have felt that the use is to a moderate extent. 27.5% of the respondents felt that the use of reference sources is to a higher extent. Therefore, it is inferred that a large percentage of students use the reference sources only to a moderate extent and the post-graduate students rely more on reference sources than the undergraduate students

Among the visually challenged respondents in the study, 9.4% use grey literature comprising of reports, project works, proceedings of the seminars and conferences. A large majority representing 90.6% do not need grey sources of information for their academic tasks. It is only 3% of the respondents use such of these grey sources to a higher extent

4. In the present study, a large majority of the respondents representing 500 visually challenged students do not browse magazines and newspapers. Instead, they prefer to listen to radio and television news. The percentage of respondents who do not read newspapers and magazines account for 74.9%. However, 21.3% of the respondents' browse to a limited extent and only 3.7% browse newspapers and popular magazines to a higher extent.
5. With regard to the use of journals, 69.3% of the respondents have stated that they do not need journals for their academic tasks. However, 30.7% of respondents use journals. Among the users, 12.2% use to a higher extent and another segment of users representing 3% use journals to a moderate extent. Further, it is 15.5% of users who rely upon journals only to a little extent. Hence, it is clear that a large percentage of respondents do not need journals to satisfy their academic needs.
6. Referring to the use of Braille Books, respondents have opined that they use available Braille books in their centres to a higher extent. The users of Braille books to an higher degree account for 78.2%. On the other hand, 2.2% of the respondents have offered negative reply stating that they seldom use Braille books. Referring to the responses of UG and PG students, it is clear that more of under-graduate students use Braille books than post graduate students. It is mainly because more Braille books printed are for under-graduate courses than post-graduate.
7. While referring to the assistance rendered by the parents in reading the books, only 42.8% of the visually challenged students get the assistance of their parents for reading books. A large segment of the respondents have offered negative response indicating that their parents do not assist them by reading out the books. Further, among the respondents who have offered negative response, 62.1% are female and 49% are male. This clearly proves that a large number of female students than male do not get the assistance of their parents for reading books.
8. However, the assistance rendered by their teachers in reaching books is low, only 28.2% of the visually challenged students get the help of teachers and demonstrators for reading the books. Referring to the level of education of the visually challenged students, 28.9% of the under-graduates and only 13.9% of the post-graduate students are assisted by their teachers and demonstrators by reading books .
9. While looking into the extent of assistance rendered by the library staff in reading books, again it is only a small segment of 15.2% of visually challenged students have offered positive response. However, a large segment comprising of 84.8% have offered negative response. The library staff has to take initiative in assisting the visually challenged by reading books whenever the students feel necessary. Anna Centenary Library Braille Division make arrangements for reading books by inviting interested students from nearby engineering colleges, IIT and volunteers from "Youth for Seva", an organization aimed to assist the visually challenged in extending various services including education, employment and social services.
10. While considering the assistance rendered by the volunteers working for NGOs in reading books, again it is only a small number of students who have expressed positive response. Just 14.7% of the visually challenged respondents are getting the assistance of the volunteers for reading books. Further, among the students, who take assistance of volunteers the female students from under-graduate colleges are more in percentage than male students.
11. The study reveals that there is need to assist the visually challenged students by reading books borrowed from the college library, as well as books made available at the hostels. The library staff has to render reading

services for the visually challenged by keeping a list of volunteers who are interested to help the visually challenged as in the case of Braille Section of the Anna Centenary Library, Chennai.

CONCLUSIONS:

Now-a-days, effective intervention of assistive technology for the self-reliance of the visually challenged students is a necessity. There is really felt-need for the establishment of full-fledged library facilities comprising of print resources as well as braille resources in academic institutions where the students seek admission for studying various courses leading to the award of degrees, including research programmes. Here, the libraries have to establish Learning Resources Centres especially for the visually challenged equipped with all hardware and software useful for the visually challenged for reading and writing purposes. The libraries are treated as the right places as the visually challenged students will get the opportunity of accessing huge holdings of books, journals, theses and report literature developed by the libraries.

Assistive Technology is really a boon for the visually challenged because they can use information sources for reading on their own and also fact that, on line information sources can be accessed anytime and from anywhere by these students without reliance on others. Academic colleges and residential institutions which offer admission to the visually challenged have to establish appropriate infrastructure facilities encompassing assistive technology, more comprehensively so that the higher learning will be made easy for those who are served. However, budget is not a constraint because both central and state governments provide the required grants to implement the projects and proposals projected by the institutions serving the educational needs of the visually challenged students.

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