KNOWLEDGE OF E-RESOURCES IN ENGINEERING COLLEGE LIBRARIES- A STUDY

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ABSTRACT

For various reasons electronic resources are increasing in libraries, particularly in engineering college libraries. The awareness on e-resources' and their use is studied in selected engineering college libraries. The aspects like E-books, E-journals, E-E-Theses, Video Courses, CD Roms, Old question papers etc., are covered. The use of INDEST is studied thoroughly.

Key Words: E-resources, E-Books, E-Journals, INDEST, ASME, IEEE, ASCE

INTRODUCTION

For obvious reasons, the establishment of engineering colleges is significant in Andhra Pradesh. To impart qualitative education, all the engineering colleges are giving due importance to their libraries. The AICTE has given clear direction to all the engineering colleges to establish and develop their libraries with relevant material like books, periodicals and electronic resources to cater the information needs of the users. Accordingly, the managements are initiating necessary steps to improve the libraries. As a result all engineering libraries are maintaining electronic resources in their libraries. The present study is taken up to understand the use of electronic resources available in these libraries and suggest suitable measures to improve the use of electronic resources. Therefore, a kind of training programme is necessary to impart knowledge on these aspects.

METHODOLOGY

Once it is decided to conduct the survey on engineering college libraries, the list of Engineering College libraries affiliated to JNTU- Kakinada is obtained. As per the information obtained, there are 51 Engineering Colleges affiliated to JNTU – Kakinada. And out of them 12 engineering colleges are selected for the present study. Due importance is given to NBA accredited and established Engineering College Libraries.

The responses obtained from 2498 students randomly selected from 12 colleges affiliated to JNTU, Kakinada. The 2498 responses relating to the use of Electronic resources in their respective college libraries along with the user opinion on the e-resources improvement were analyzed by selected background variables such as gender, age group, academic level and college.

KNOWLEDGE ABOUT E–RESOURCES

All the 2498 respondents were asked to mention whether they are aware of the different electronic resources available in their library and their responses are shown in the following table

Awareness of E-Resources	f	%
Respondents Reporting Awareness	1915	76.7
Respondents Reporting No Awareness	583	23.3
Total	2498	100.0

About 77% of the respondents have reported that they are aware of the electronic resources available in their libraries. The point of concern here is the fact that still there are nearly one-fourth of the respondents who are not aware of the e-resources. It is necessary to take-up this area on priority basis to include in ILPs.

Awareness of E- Resources in the library by selected background variables

Information on the respondents' awareness about e-resources available in their libraries is presented in the table by selected background variables.

Awareness about the available e-resources is more among the females (79%) than the males (75%). When age group is considered, the awareness is more in the older age group (20 years above) (80%) than the younger age group (20 years or below)(76%). As expected, this awareness is found more among the PG students (85%) than the UG students (75%).

Awareness of E-Resources in the library by selected background variables									
Variable		n	Awareness of E-Resources				Chi-square Value	df	Sig.
			Yes		No				
			f	%	f	%			
Gender	Male	1543	1159	75.1	384	24.9	5.405*	1	0.020

	Female	955	756	79.2	199	20.8			
Age Group	< 20 yrs	1778	1342	75.5	436	24.5	4.827*	1	0.028
	> 20 yrs	720	573	79.6	147	20.4			
Academic level	UG	2153	1623	75.4	530	24.6	14.234*	1	0.000
	PG	345	292	84.6	53	15.4			
College	GMR	235	173	73.6	62	26.4	120.812*	11	0.000
	ADITYA_T	223	187	83.9	36	16.1			
	MVGR	224	180	80.4	44	19.6			
	VIGNAN	181	127	70.2	54	29.8			
	BVC	179	126	70.4	53	29.6			
	ADITYA_E	212	163	76.9	49	23.1			
	VASAVI	235	197	83.8	38	16.2			
	VISHNU	203	175	86.2	28	13.8			
	PVPS	183	150	82.0	33	18.0			
	GEC	220	195	88.6	25	11.4			
	LOYOLA	195	125	64.1	70	35.9			
	VRS&YRN	208	117	56.3	91	43.8			

* Chi-square value significant at 5% level.

The percentage reporting awareness of e-resources ranged from 64 in Loyola College of Engineering to 89 in GEC.

The chi-square value is found significant indicating influence of all the four variables on the awareness of electronic resources available in the library.

Knowledge of different e-resources of information available in the library

All the respondents were asked to mention the different e-resources they are aware of and their responses are shown in the following table.

Knowledge of different e-resources	f	%
E- books	1618	64.8
E-Journals	1685	67.5
E-Theses	875	35.0
Video Courses	1439	57.6
CD ROMS	1564	62.6
Old Question papers	2003	80.2
Total	2498	--

A majority of the respondents (80%) expressed their knowledge on old question papers. This is followed by e-journals (68%), e-books (65%), CD-ROMs (63%), Video courses (58%) and e-theses (35%). It shows the knowledge on electronics resources to user be improved and required measures be taken up in ILPs.

Knowledge of different e-resources of information available in the library by selected background variables

Information on the respondents' knowledge about different e-resources of information is presented in the Table by selected background variables.

It is noticed that, in general, the reported knowledge about all the listed e-resources of information is more among the male students than the female students, except incase of e-journals and CD-ROMs; more in the older age group (20 years above) than the younger age group (20 years or below) except incase of CD-ROMs; more among the PG students than the UG students except incase of e-theses and CD-ROMs; and varied among the 12 colleges.

The chi-square value is found significant indicating influence of gender, age group and academic level on the knowledge of three electronic sources – e-books, video courses and old question papers while college has influence on all the listed e-resources.

Knowledge of e-resources by selected background variables								
Variable		n	% Reporting knowledge of					
			E-books	E-Journals	E-Theses	Video Courses	CD ROMS	Old Question papers
Gender	Male	1543	67.3	66.8	35.3	61.0	62.3	82.2
	Female	955	60.6	68.6	34.6	52.1	63.1	77.0
	Chi-square (df 1)							
		Value	11.633*	0.903	0.152	18.869*	0.186	10.094*
		Sig	0.001	0.342	0.697	0.000	0.666	0.001
Age Group	< 20 yrs	1778	62.5	66.5	34.8	55.8	63.0	78.2
	> 20 yrs	720	70.3	69.7	35.7	61.9	61.7	85.0
	Chi-square (df 1)							
		Value	13.440*	2.371	0.197	7.796*	0.385	14.765*
		Sig	0.000	0.124	0.657	0.005	0.535	0.000
Academic level	UG	2153	63.2	66.8	35.3	56.7	63.4	79.1
	PG	345	74.5	71.6	33.6	63.2	57.4	87.2
	Chi-square df1)							
		Value	16.577*	3.125	0.347	5.107*	4.657*	12.565*
		Sig	0.000	0.077	0.556	0.024	0.031	0.000
	GMR	235	83.8	71.1	43.8	83.0	80.4	89.8

College								
	ADITYA_T	223	61.9	66.4	37.2	42.2	68.6	82.5
	MVGR	224	76.8	55.8	19.6	44.6	52.2	74.1
	VIGNAN	181	6.6	26.0	3.3	64.1	64.1	80.1
	BVC	179	44.1	52.0	14.0	26.3	28.5	71.5
	ADITYA_E	212	90.6	95.8	63.2	66.0	77.4	89.6
	VASAVI	235	63.0	67.7	37.4	60.9	31.5	84.7
	VISHNU	203	39.4	80.3	34.0	37.9	85.7	53.7
	PVPS	183	84.2	82.5	79.2	82.0	85.2	91.8
	GEC	220	88.6	82.7	22.7	86.8	70.9	92.3
	LOYOLA	195	72.3	75.4	41.0	59.5	65.1	73.3
	VRS&YRN	208	52.9	48.1	23.1	33.7	41.8	75.5
Chi-square (df 11)								
	Value	576.102*	352.894*	409.218*	384.168*	383.417*	177.049*	
	Sig	0.000	0.000	0.000	0.000	0.000	0.000	

Note : n=2498   * Chi-square value significant at 5% level.

Membership / participation of the college library in any consortium

All the respondents were asked whether their library is a member / participating in any consortium and their responses are shown in the following Table

Respondents reporting their awareness in Library consortium

Respondents reporting that their	F	%
Library is participating in some consortium	1690	67.7
Library is not participating in some consortium	808	32.3
Total	2498	100.0
Name of the Consortium		
INDEST - AICTE	1350	79.9
OTHERS	340	20.1
Total	1690	100.0

In all, about 68% of the respondents reported that their library is a member / participating in some consortium. The remaining 32% answered in negative. Out of the 1690 respondents answered in affirmative, 1350 (80%) said their library is a member of INDEST while the remaining 20.1% reported membership in other agencies. Some of the selected engineering college library are directly go for IEEE, ASME etc.,

Membership/participation of the college library in any consortium by selected background variables

Information on the membership / participation of the college library in any consortium as reported by the 2498 respondents is presented in the Table by selected background variables.

It is noticed that, more or less same percentage of males (68) and female students (67) reported that their library is a member of some consortium. This membership is reported more by the older age group (20 years above) (74%) than the younger age group (20 years or below)(65%); more by the PG students (78%) than the UG students (66%); and among the 12 colleges, it ranged from 23% in Vignan Engineering College to 87% in Vasavi Engineering College. Influence of variables like age group, academic level and college on the reported membership is evidenced by the computed chi-square values.

Membership/participation of the library in any consortium by selected background variables									
Variable		n	Awareness of membership/participation in any consortium				Chi-square Value	df	Sig.
			Yes		No				
			f	%	f	%			
Gender	Male	1543	1047	67.9	496	32.1	0.074	1	0.785
	Female	955	643	67.3	312	32.7			
Age Group	< 20 yrs	1778	1161	65.3	617	34.7	15.647*	1	0.000
	> 20 yrs	720	529	73.5	191	26.5			
Academic level	UG	2153	1421	66.0	732	34.0	19.469*	1	0.000
	PG	345	269	78.0	76	22.0			
College	GMR	235	189	80.4	46	19.6	362.844*	11	0.000
	ADITYA_T	223	157	70.4	66	29.6			
	MVGR	224	140	62.5	84	37.5			
	VIGNAN	181	42	23.2	139	76.8			
	BVC	179	83	46.4	96	53.6			
	ADITYA_E	212	179	84.4	33	15.6			
	VASAVI	235	204	86.8	31	13.2			
	VISHNU	203	128	63.1	75	36.9			
	PVPS	183	149	81.4	34	18.6			
	GEC	220	185	84.1	35	15.9			
	LOYOLA	195	130	66.7	65	33.3			
	VRS&YRN	208	104	50.0	104	50.0			
* Chi-square value significant at 5% level									

AWARENESS, KNOWLEDGE AND USE OF DIFFERENT INDEST SERVICES

All the 1350 respondents, who reported membership of their library in INDEST, were asked to mention whether they are aware of the different services available under INDEST. Here also, their responses are recorded in more detail as 'awareness'; 'knowledge' and 'use & evaluation'. These responses are shown in the following Table

Awareness, knowledge and use of different INDEST services

INDEST Services	% Reporting		
	Awareness	Knowledge	Use & Evaluation
IEEE	72.0	62.5	57.0
ASME	32.6	28.6	25.6
ASCE	21.3	17.2	16.1
Article Search & Download	45.3	45.2	43.0
Save the articles through CD, Pen Drive and E-Mail	57.9	57.5	55.9
Note: n=1350 (Those who reported library's membership in INDEST)			

Most of the respondents are aware of IEEE (72%) and about 63% reported detailed knowledge about IEEE while 57% have used it.

This is followed by awareness about 'Saving the articles through CD, Pen drive, e-mail, etc. (58%) and knowledge of the same is reported by an equal percentage (58%) and use is reported by 56%.

Awareness of other items like article search & download, ASME and ASCE were reported by less than half. About 45% reported awareness and knowledge of 'article search & download' while 43% reported use of the same.

Only 33% are aware of ASME and 29% have some knowledge of the same while use of it is reported by 26%. In the same way, only 21% are aware of ASCE, 17% possess knowledge of ASCE and 16% have used it.

Awareness, Knowledge and Use of different INDEST services by selected background variables

Information relating to the awareness, knowledge and use of different INDEST services reported by the 1350 respondents is presented by selected background variables in the following Tables, for each of the listed services.

IEEE

Awareness, Knowledge and Use of IEEE by selected background variables					
Variable		n	% Reporting		
			Awareness	Knowledge	Use & Evaluation
Gender	Male	794	71.9	57.4	54.3
	Female	556	72.1	69.8	61.0
	Chi-square (df 1)				
		Value	0.007	21.297*	5.971*
		Sig	0.933	0.000	0.015
Age Group	< 20 yrs	942	71.4	60.9	54.8
	> 20 yrs	408	73.3	66.2	62.3
	Chi-square (df 1)				
		Value	0.478	3.339*	6.496*
		Sig	0.489	0.068	0.011
Academic level	UG	1154	73.6	63.1	57.1
	PG	196	62.8	59.2	56.6
	Chi-square (df 1)				
		Value	9.721*	1.088	0.015
		Sig	0.002	0.297	0.902
College	GMR	150	87.3	69.3	64.7
	ADITYA_T	31	67.7	25.8	22.6
	MVGR	139	80.6	59.0	59.0
	VIGNAN	37	91.9	21.6	16.2
	BVC	33	60.6	51.5	48.5
	ADITYA_E	166	41.6	30.7	19.3
	VASAVI	197	98.0	97.8	97.5
	VISHNU	116	74.1	70.7	62.9
	PVPS	132	80.3	49.2	43.2
	GEC	183	84.2	63.9	47.0
	LOYOLA	115	63.5	59.1	55.7
	VRS&YRN	51	70.6	66.7	58.8
	Chi-square (df 11)				
		Value	308.444*	202.749*	249.231*
		Sig	0.000	0.000	0.000
Note : n=1350 * Chi-square value significant at 5% level.					

Awareness, knowledge and use of the IEEE services are reported more by the female students, those in the older age group (20 years above) and the UG students. Chi-square value indicates influence of gender and age group on knowledge and use; academic level on awareness of IEEE services.

Variation in the level of awareness, knowledge and use of IEEE services is noticed among the 12 colleges. The percentage reporting awareness ranged from 42 in Aditya_E to 98 in Vasavi Engineering College. Knowledge levels ranged from 22% in Vignan Engineering College to 98% in Vasavi Engineering College while the percentage reporting Use ranged from 16 in Vignan Engineering College to 98 in Vasavi Engineering College.Variation in these responses is observed to be statistically significant.

b) ASME

Awareness, knowledge and use of the ASME services are reported more by the male students, those in the older age group (20 years above) and the PG students.

Variation in the level of awareness, knowledge and use of ASME services is noticed among the 12 colleges. The percentage reporting awareness ranged from 14 in Vignan Engineering College to 71 in MVGR Engineering College. Knowledge levels ranged from 5% in Vignan Engineering College to 65% in MVGR Engineering College while the percentage reporting Use ranged from 0 in Vignan Engineering College to 48 in GMR Engineering College.

Chi-square value indicates influence of gender, age group, academic level and college on awareness, knowledge and use of ASME services.

Awareness, Knowledge and Use of ASME by selected background variables					
Variable		n	% Reporting		
			Awareness	Knowledge	Use & Evaluation
Gender	Male	794	35.3	31.1	28.0
	Female	556	28.8	25.0	22.3
	Chi-square (df 1)				
		Value	6.264*	5.976*	5.491*
		Sig	0.012	0.015	0.019
Age Group	< 20 yrs	942	29.9	26.2	21.0
	> 20 yrs	408	38.7	36.3	34.1
	Chi-square (df 1)				
		Value	10.010*	8.588*	34.760*
		Sig	0.002	0.003	0.000

Academic level	UG	1154	30.8	26.9	22.8
	PG	196	42.9	42.3	38.8
	Chi-square (df 1)				
		Value	10.996*	11.645*	33.618*
		Sig	0.001	0.001	0.000
College	GMR	150	58.7	48.7	48.0
	ADITYA_T	31	35.5	25.8	22.6
	MVGR	139	71.2	64.7	46.8
	VIGNAN	37	13.5	5.4	0.0
	BVC	33	21.2	15.2	15.2
	ADITYA_E	166	15.7	10.2	8.4
	VASAVI	197	34.0	12.7	12.7
	VISHNU	116	24.1	22.4	21.6
	PVPS	132	22.0	18.2	16.7
	GEC	183	35.0	33.9	23.0
	LOYOLA	115	38.3	31.3	27.0
	VRS&YRN	51	29.4	13.7	11.8
	Chi-square (df 11)				
		Value	180.273*	251.981*	119.549*
		Sig	0.000	0.000	0.000
Note : n=1350 * Chi-square value significant at 5% level.					

c) ASCE

Awareness and use of the ASCE services are reported more by the male students while there is no difference in level of knowledge about ASCE services.

Awareness, Knowledge and Use of ASCE by selected background variables					
Variable		n	% Reporting		
			Awareness	Knowledge	Use & Evaluation
Gender	Male	794	21.9	17.1	17.1
	Female	556	20.3	17.3	14.6
	Chi-square (df 1)				
		Value	0.494	0.004	1.589
		Sig	0.482	0.947	0.208

Age Group	< 20 yrs	942	21.3	17.2	15.6
	> 20 yrs	408	21.1	17.2	17.2
	Chi-square (df 1)				
		Value	0.011	0.001	0.508
		Sig	0.915	0.986	0.476
Academic level	UG	1154	22.4	17.8	17.4
	PG	196	14.8	13.8	8.2
	Chi-square (df 1)				
		Value	5.722*	1.873	10.637*
		Sig	0.017	0.171	0.001
College	GMR	150	40.7	40.0	35.3
	ADITYA_T	31	32.3	22.6	19.4
	MVGR	139	12.9	12.2	12.2
	VIGNAN	37	0.0	0.0	0.0
	BVC	33	12.1	9.1	9.1
	ADITYA_E	166	19.3	9.0	8.4
	VASAVI	197	12.7	10.7	9.6
	VISHNU	116	32.8	29.3	16.4
	PVPS	132	18.2	17.4	16.7
	GEC	183	17.5	15.8	9.8
	LOYOLA	115	36.5	31.3	23.5
	VRS&YRN	51	11.8	2.0	0.0
	Chi-square (df 11)				
		Value	101.207*	79.050*	120.171*
		Sig	0.000	0.000	0.000

Note : n=1350

* Chi-square value significant at 5% level.

In the same way, there is no difference in the level of awareness and knowledge of ASCE services between the two age groups while use is reported more by those in the older age group (20 years above). By academic level, the level of awareness, knowledge and use of ASCE services is more among the UG students.

Here also, lot of variation is noticed in the levels of awareness, knowledge and use of ASCE services among the 12 colleges. None of the 37 respondents from Vignan Engineering College are aware of these services while none of them have reported knowledge and use of these services.

The percentage reporting awareness ranged from 0 in Vignan Engineering College to 41 in GMR Engineering College. Knowledge levels ranged from 0% in Vignan Engineering College to 40%

in GMR Engineering College while the percentage reporting Use ranged from 0 in Vignan Engineering College to 35 in GMR Engineering College.

Chi-square value indicates influence of academic level and college on awareness, knowledge and use of ASCE services.

d) Article Search & Download

The percentage reporting awareness and knowledge about 'article search and downloading' and use of the same is more among the female students, among those in the older age group (20 years above) and among the PG students. All the three variables – gender, age group and academic level have shown significant chi-square values for the awareness, knowledge and use of article search and download.

Awareness, Knowledge and Use of Article search & download by selected background variables					
Variable		n	% Reporting		
			Awareness	Knowledge	Use & Evaluation
Gender	Male	794	42.1	41.8	39.9
	Female	556	50.4	49.6	47.3
	Chi-square (df 1)				
		Value	9.637*	7.575*	7.264*
		Sig	0.002	0.006	0.007
Age Group	< 20 yrs	942	40.6	39.9	37.8
	> 20 yrs	408	57.4	56.4	54.9
	Chi-square (df 1)				
		Value	28.753*	34.952*	34.012*
		Sig	0.000	0.000	0.000
Academic level	UG	1154	42.3	41.7	39.5
	PG	196	65.8	63.3	63.3
	Chi-square (df 1)				
		Value	29.751*	39.404*	38.568*
		Sig	0.000	0.000	0.000
College	GMR	150	55.3	49.3	48.0
	ADITYA_T	31	25.8	25.8	22.6
	MVGR	139	79.9	48.9	48.9
	VIGNAN	37	13.5	13.5	10.8
	BVC	33	57.6	51.5	45.5
	ADITYA_E	166	47.0	44.6	27.7

VASAVI	197	65.0	49.7	48.2
VISHNU	116	62.1	58.6	54.3
PVPS	132	56.1	41.7	34.1
GEC	183	29.5	29.0	28.4
LOYOLA	115	38.3	37.4	34.8
VRS&YRN	51	47.1	47.1	15.7
Chi-square (df 11)				
	Value	98.192*	170.086*	52.291*
	Sig	0.000	0.000	0.000
Note : n=1350				
* Chi-square value significant at 5% level.				

The percentage reporting awareness ranged from 14 in Vignan Engineering College to 80 in MVGR Engineering College. Knowledge levels ranged from 14% in Vignan Engineering College to 59% in Vishnu Engineering College while the percentage reporting Use ranged from 11 in Vignan Engineering College to 54 in Vishnu Engineering College. Variation in these responses is statistically significant.

e) Saving Articles

Awareness, Knowledge and Use of Saving Articles by selected background variables					
Variable		n	% Reporting		
			Awareness	Knowledge	Use & Evaluation
Gender	Male	794	56.0	56.9	53.5
	Female	556	60.6	58.3	59.4
	Chi-square (df 1)				
		Value	2.797	0.243	4.503*
		Sig	0.094	0.622	0.034
Age Group	< 20 yrs	942	55.3	54.7	54.5
	> 20 yrs	408	65.4	62.5	59.3
	Chi-square (df 1)				
		Value	13.551*	6.025*	2.723
		Sig	0.000	0.014	0.099
Academic level	UG	1154	56.3	56.0	54.9
	PG	196	67.3	66.3	62.2
	Chi-square (df 1)				
		Value	8.350*	7.340*	3.714
		Sig	0.004	0.007	0.054

	GMR	150	84.7	83.3	78.7
	ADITYA_T	31	51.6	45.2	41.9
	MVGR	139	63.3	46.0	46.0
	VIGNAN	37	67.6	16.2	8.1
	BVC	33	60.6	54.5	54.5
	ADITYA_E	166	69.3	50.6	34.3
	VASAVI	197	68.5	68.5	68.0
College	VISHNU	116	65.5	63.8	54.3
	PVPS	132	48.5	42.4	34.8
	GEC	183	58.5	56.3	54.6
	LOYOLA	115	60.9	55.7	46.1
	VRS&YRN	51	43.1	35.3	35.3
	Chi-square (df 11)				
		Value	99.437*	131.840*	127.035*
		Sig	0.000	0.000	0.000

Note : n=1350

* Chi-square value significant at 5% level.

The percentage reporting awareness and knowledge about 'article saving' and use of the same is more among the female students, among those in the older age group (20 years above) and among the PG students. Age group and academic level have shown significant chi-square values for the awareness, knowledge while gender for use of article saving.

The percentage reporting this awareness ranged from 43 in VRS & YRN Engineering College to 85 in GMR Engineering College. Knowledge levels ranged from 16% in Vignan Engineering College to 83% in MVGR Engineering College while the percentage reporting Use ranged from 8 in Vignan Engineering College to 79 in GMR Engineering College. Variation in these responses is statistically significant.

CONCLUSIONS

The awareness of electronic resources in engineering college libraries is promising but the knowledge on them is not up to the mark. Therefore this aspect should be kept in mind while conducting information literacy programmes in future. The information facilities available in any library consortia are abundant. So the users should be educated form time to time to tap the information successfully to meet their academic needs. If this aspect is taken care of, the use of electronic resources and facilities available in library consortia would increase.

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