Use of Information and Communication Technology (ICT) Among Students of Government Dental College, Kottayam, Kerala

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ABSTRACT

The use of information and communication technology (ICT) by dental students at the Government Dental College in Kottayam, Kerala, has been attempted to be investigated. The random samplings were used in this investigation. Questionnaire methods were used for data analysis. The participants in this research received a total of 110 well-structured questionnaires, 106 of which were fully completed and returned, obtaining a 96% response rate. Based on the findings, it can be concluded that dental students' happiness with the use of ICT is significantly influenced by their gender and frequency of library visits, even though their significance values are less than the threshold value of 0.05.

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KEYWORDS: ICT, Government Dental College, Kottayam, Kerala state, Online Resources.

INTRODUCTION

The world of today is well recognized for its information explosion. The gradual adoption of democracy, the universalization of educational resources, and the expansion of research efforts by organizations like governments, universities, research institutes, businesses, and the private sector, among others, are the main causes of the information explosion. Libraries today serve as information resource centres and are expected to offer active information service to their users. The goal is to provide visitors with timely and pertinent information for the least amount of money. As a result, information dissemination that happens quickly is crucial. Due to the users whose numbers are growing, information is available in a variety of formats, areas of study, and languages. As a result, information was shared according to user requirements. The main methods for disseminating information include journals of original articles, abstracting and indexing services, and reviews, or simply primary and secondary publishing channels. To assure the effectiveness of the service, specific processes and procedures have been adopted.

PROFILE OF GOVERNMENT DENTAL COLLEGE, KOTTAYAM

The third dental institution in the government sector, Govt. Dental institution Kottayam, began classes in 2002. The courses provided are associated with Mahatma Gandhi University and approved by the Dental Council of India (DCI). The college currently provides courses in dental sciences at the undergraduate (BDS) and graduate (MDS) levels. On January 10, 2002, Sri. A. K. Antony, the Honourable Chief Minister of Kerala, officially opened the institution. i.e. Dental College of Kottyam for the current research, was presided over by Sri.P. Shankaran, the Hon. Minister for Health and Human Services.

LITERATURE REVIEW

Ahmad, T. and Sheikh, A. (2021) conducted a case study at the Punjab University in Pakistan. The main goals of the research were to examine how information and communication technologies (ICTs) (mainly focusing on aspects like availability, accessibility, and user-ability of accessing ICT resources) affect students' learning. A questionnaire was created to achieve the goals, and using the convenience sampling technique, 275 students enrolled in different degree programmes at the University of the Punjab in Pakistan were chosen as the sample. Data were presented in tabular form and a descriptive analysis was conducted in the first place. According to the research, university students have appropriate access to a variety of ICT resources and apps, as well as a sufficient amount of ICT hardware. Students can use it to search for, find, and reference a variety of information sources. They can effortlessly complete their academic assignments with its assistance. The findings demonstrated the ICT resources' readiness, sufficiency, accessibility, and user-friendliness. As a result, it is strongly advised that students acquire ICT-related abilities and utilise the various communication tools to their fullest potential.

Olatoye, .I., Nekhwevha, F. and Muchaonyerwa, N.(2021) conducted a survey for undergraduate students, finding that 60 (22.6%) and 76 (28.6%) of them use electronic library resources, respectively, with less than a year of experience and proficiency. Additionally, 41 (15.4%) people utilize desktop or laptop computers. 266 of the 377 questionnaires were returned, or around 70.6% of them. Investigating the effects of information and communication technology (ICT) on undergraduate students was one of the main goals of the study. The outcome thus shows that both the degree of ICT skill competency and the use of ICT facilities are still underutilized.

Agava, S. L., and Underwood, P. G.(2020) This study, which was done, intends to evaluate the ICT skills of librarians and information scientists (LIS) employed by Tangaza University College (TUC) Library in Kenya. In terms of fundamental computing, storing and copying data into primary and secondary storage devices as well as retrieving documents from storage devices, all respondents reported that they had extremely high basic ICT abilities. The study is helpful for individuals working on creating training programmes for librarians to improve areas thought to have weaknesses.

Mahadevan and VijayaKumar (2019) have done an investigation on the usage of Information and Communication Technology (ICT) Tools by the Faculty Members in Pharmacy Colleges in Kerala. The objectives of the study were to overview of the utilization of ICT tools among Pharmacy college faculty members; to find out the frequency of ICT usage by gender; to know the relationship between Assistant Professors, and Associate Professors in terms of knowledge of ICT Tools etc. For analysis, twenty selected Pharmacy college faculty members were chosen from

Kerala using stratifying random sampling technique. The response rate was 95 percent. Out of 298 respondents, the majority of 172 (57.72%) respondents were male whereas the rest of 42.28% of them were female.

Nwosu; John and Akorede (2018) ICT-based instructional tools' accessibility and availability in medical colleges in Ogun State, Nigeria, were explored. The study's main goals were to identify the pertinent ICT tools used for teaching and learning in medical students, as well as to learn more about the ICT infrastructure and tools utilised by medical students. Expo facto methodology and a descriptive survey were used in this study. It was discovered that both faculty members and medical students were chosen for this study using simple random sampling techniques and probability sampling. The study's findings showed that 42.3% of respondents came from the clinical sciences, followed by more than 35% from the basic medical sciences, and just 7.3% of users were from the pharmacy. MBBS (40% of respondents) and BMBS (22% of respondents) were highly prevalent among the two medical schools, and the majority of users—51%—were lecturers. While 57.7% of users claimed there was insufficient availability for lab use, 42.3% of users claimed multimedia classes were available. The study was restricted to medical schools in Nigeria's Ogun State

STATEMENT OF THE PROBLEM

Information and communication Technology is many different sorts of institutions; technology has been widely adopted. Implementing such technology in the medical and health sciences has become standard practice. New strategies will raise the current structure and policies for improvement. The opinions of dental experts must also be researched for future studies.

OBJECTIVES

✓ To determine the level of the awareness on ICT based services among the students

✓ To examine the existing ICT infrastructure in Dental Colleges kottayamin Kerala

✓ To find out the frequency of the library visit by the users

✓ To know about the opinion in terms of library collections by the respondents

✓ To determine the level of satisfaction regarding the ICT usage among the respondents

✓ To know the problems faced by the users while using ICT infrastructure and services

HYPOTHESES

1. There is no significant difference between frequency of visit to library by the dental Students and purposes of visit to library.

2. There is no significant difference between average time spent in library per visit by the dental students and purposes of visit to library.

3. There is no significant difference between level of computer and internet expertise of dental students and purposes of visit to library.

METHODOLOGY

Both primary and secondary sources provided the information needed for the study. This study was carried out utilizing a questionnaire survey methodology. The necessary samples have been obtained from the dental institution in Kerala's Kottayam. The pupils from the study region were given 110 questionnaires. 106 properly completed surveys with a 96% response rate were returned.

RESULT

Table 1: Age wise classification of the Dental Students

S. No	Age (in years)	Number of Respondents	Percentage
1	Less than 25	79	74.52
2	Above 25	27	25.47
	Total	106	100.0

(Source: Primary data)

It can be inferred from the above table that out of the total 106 dental students, 79 form 74.52 per cent are in the age group of less than 25 years, 27 form 25.47 per cent are in the age group of above 25 years.

Table 2: Gender wise Classification of the Dental Students

S. No	Gender	Number of Respondents	Percentage
1	Female	64	60.38
2	Male	42	39.62
	Total	106	100.0

(Source: Primary data)

It can be inferred from the above table that out of the total 106 dental Students, 64 form 60.38 per cent are female and the rest 42 form 39.62 per cent are male.

Table 3: Frequency of Visit to Library by the Dental Students

S. No	Frequency of visit	Number of Respondents	Percentage
1	Daily	77	72.64
2	Once in two days	29	27.36
	Total	106	100.0

(Source: Primary data)

It is clear from the above table that out of the total 106 dental students, 77 form 72.64 per cent visit their college library on daily basis and the rest 29 form 27.36 per cent visit their college library once in two days.

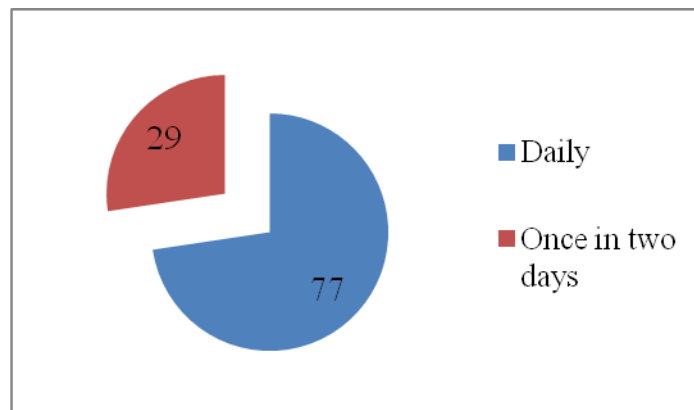**Figure 1:** Frequency of Visit to Library by the Dental Students

Table 4: Average time spent in Library per visit by the Dental Students

S. No	Time Spent	Number of Respondents	Percentage
1	Less than 15 minutes	-	-
2	16 - 30 minutes	82	77.36
3	31 - 45 minutes	15	14.15
4	One hour	3	2.83
5	One hour - two hours	6	5.66
6	More than two hours	-	-
	Total	106	100.0

(Source: Primary data)

It can be inferred from the above table that out of the total 106 dental students, 82 form 77.36 per cent spend on an average 16 to 30 minutes per visit to their college library, 15 form 14.15 per cent spend on an average 31 to 45 minutes, 6 form 5.66 percent spend on an average one hour to two hours and the rest 3 form 2.83 per cent spend on an average one hour. This can be visualized in the chart given below.

**Figure 2:** Average time spent in Library per visit by the Dental students
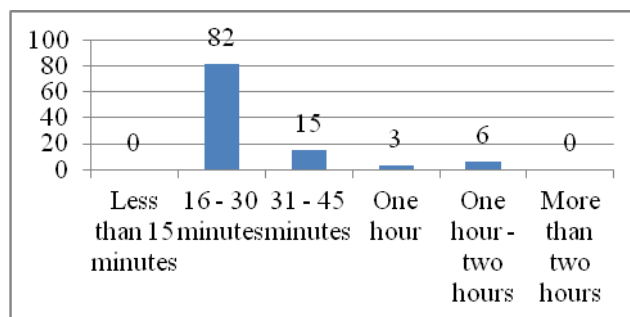
Table 5 : Level of Computer and Internet Expertise of Dental students

S. No	Level of expertise	Number of Respondents	Percentage
1	Beginner	42	39.62
2	Intermediary	35	33.02
3	Expert	29	27.36
	Total	106	100.0

(Source: Primary data)

It can be inferred from the above table that out of the total 106 dental Students, 42 (39.62 per cent report) that their level of computer and internet expertise is "Beginner", 35 (33.02 per cent) report that their level of computer and internet expertise is "Intermediary" and the rest 29 forming 27.36 per cent report that their level of computer and internet expertise is "Expert". This can be visualized in the chart given below.

Figure 3 : Level of Computer and Internet Expertise of Dental Students
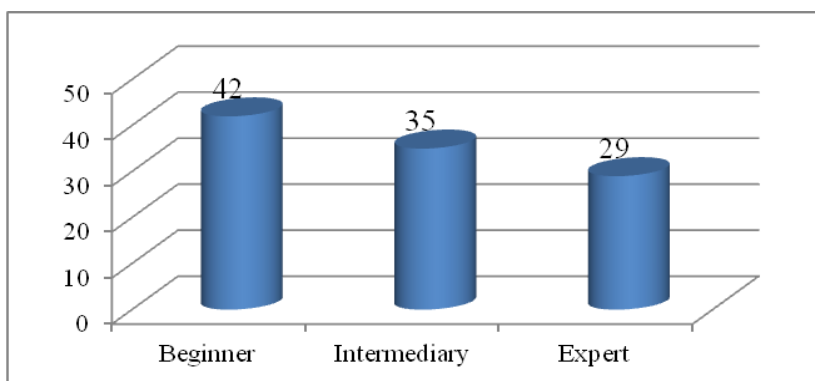
ONE WAY ANOVA BETWEEN FREQUENCY OF VISIT TO LIBRARY BY THE DENTAL STUDENTS AND PURPOSES OF VISIT TO LIBRARY

To find at relationship between frequency of visit to library by the dental Students and purposes of visit to library the following hypothesis was formulated.

Ho: There is no significant difference between frequency of visit to library by the dental Students and purposes of visit to library.

H1: There is a significant difference between frequency of visit to library by the dental Students and purposes of visit to library.

In order to identify the relationship between the frequency of visit to library by the dental Students and the purposes of visit to library, One-way ANOVA is applied and the result is presented in the table 6

Table 6: One-way ANOVA between Frequency of Visit by Students and Purposes of Visit

		Sum of Squares	df	Mean Square	F	Sig.
Updating subject knowledge	Between Groups	46.092	1	46.092	40.966	.000*
	Within Groups	117.012	104	1.125		
	Total	163.104	105			

Taking Notes	Between Groups	7.496	1	7.496	6.135	.015*
	Within Groups	127.070	104	1.222		
	Total	134.566	105			
Browsing Internet	Between Groups	2.447	1	2.447	1.691	.196
	Within Groups	150.468	104	1.447		
	Total	152.915	105			
Research works	Between Groups	.994	1	.994	.706	.403
	Within Groups	146.450	104	1.408		
	Total	147.443	105			
Recreation	Between Groups	1.397	1	1.397	.864	.355
	Within Groups	168.047	104	1.616		
	Total	169.443	105			
Reading newspaper	Between Groups	1.052	1	1.052	.952	.332
	Within Groups	114.957	104	1.105		
	Total	116.009	105			
Reading Journals/ Magazines	Between Groups	.620	1	.620	.404	.526
	Within Groups	159.503	104	1.534		
	Total	160.123	105			

* Significant at 5 per cent level

From the above table, it is evident that, the Updating subject knowledge and Taking Notes as purpose of visit to library have significant association with frequency of visit to library by respondents since their respective "F" statistics are significant at 5 per cent level.

ONE WAY ANOVA BETWEEN AVERAGE TIME SPENT IN LIBRARY PER VISIT BY THE DENTAL STUDENTS AND PURPOSES OF VISIT TO LIBRARY

To find at relationship between average time spent in library per visit by the dental students and purposes of visit to library the following hypothesis was formulated.

Ho: There is no significant difference between average time spent in library per visit by the dental students and purposes of visit to library.

H1: There is a significant difference between average time spent in library per visit by the dental students and purposes of visit to library.

In order to identify the relationship between the average time spent in library per visit by the dental students and the purposes of visit to library, One-way ANOVA is applied and the result is presented in the table 7

Table 7: One-way ANOVA betweenTime Spent (students) and Purpose of Visit

		Sum of Squares	df	Mean Square	F	Sig.
Updating subject knowledge	Between Groups	7.360	3	2.453	1.607	.192
	Within Groups	155.744	102	1.527		
	Total	163.104	105			
Taking Notes	Between Groups	1.357	3	.452	.346	.792
	Within Groups	133.209	102	1.306		
	Total	134.566	105			
Browsing Internet	Between Groups	4.287	3	1.429	.981	.405
	Within Groups	148.628	102	1.457		
	Total	152.915	105			
Research works	Between Groups	4.500	3	1.500	1.070	.365
	Within Groups	142.943	102	1.401		
	Total	147.443	105			
Recreation	Between Groups	1.771	3	.590	.359	.783
	Within Groups	167.672	102	1.644		
	Total	169.443	105			
Reading newspaper	Between Groups	18.158	3	6.053	6.309	.001*
	Within Groups	97.851	102	.959		
	Total	116.009	105			
Reading Journals/ Magazines	Between Groups	17.999	3	6.000	4.306	.007*
	Within Groups	142.124	102	1.393		
	Total	160.123	105			

*Significant at 5 per cent level

From the above table, it is evident that, the Reading newspaper and Reading Journals/ Magazines as purpose of visit to library have significant association with average time spent per visit to library by respondents since their respective "F" statistics are significant at 5 per cent level.

ONE WAY ANOVA BETWEEN LEVEL OF COMPUTER AND INTERNET EXPERTISE OF DENTAL STUDENTS AND PURPOSE OF VISIT TO LIBRARY

To find at relationship between level of computer and internet expertise of dental students and purposes of visit to library the following hypothesis was formulated.

Ho: There is no significant difference between level of computer and internet expertise of dental students and purposes of visit to library.

H1: There is a significant difference between level of computer and internet expertise of dental students and purposes of visit to library.

In order to identify the relationship between the level of computer and internet expertise of dental students and the purposes of visit to library, One-way ANOVA is applied and the result is presented in the table 8

Table 8: One-way ANOVA between Expertise (students) and Purpose of Visit

		Sum of Squares	df	Mean Square	F	Sig.
Updating subject knowledge	Between Groups	2.283	2	1.141	.731	.484
	Within Groups	160.821	103	1.561		
	Total	163.104	105			
Taking Notes	Between Groups	3.275	2	1.637	1.284	.281
	Within Groups	131.291	103	1.275		
	Total	134.566	105			
Browsing Internet	Between Groups	1.864	2	.932	.635	.532
	Within Groups	151.052	103	1.467		
	Total	152.915	105			
Research works	Between Groups	9.225	2	4.613	3.437	.036*
	Within Groups	138.218	103	1.342		
	Total	147.443	105			
Recreation	Between Groups	11.309	2	5.655	3.683	.029*
	Within Groups	158.134	103	1.535		
	Total	169.443	105			
Reading newspaper	Between Groups	1.599	2	.799	.720	.489
	Within Groups	114.411	103	1.111		
	Total	116.009	105			
Reading Journals/ Magazines	Between Groups	1.576	2	.788	.512	.601
	Within Groups	158.547	103	1.539		
	Total	160.123	105			

* Significant at 5 per cent level

From the above table, it is evident that, Research work and recreation as purpose of visit to library have significant association with level of computer and internet expertise of respondents since their respective "F" statistics are significant at 5 per cent level.

Factor Analysis: Suitability for the Data

Kaiser-Meyer-Olkin and Bartlett's test are the two tests used to find the suitability of the data for administering factor analysis.

Table 9: Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.838
Bartlett's Test of Sphericity	Approx. Chi-Square	709.514
	Df	105
	Sig.	.000

Kaiser-Meyer-Olkin (KMO) Test is applied to find the sampling adequacy for all the variables and the proportion of variance in variables. Higher values which are close to 1.0 typically show that a factor analysis administered using given data will give meaningful results. If the value is less than 0.5, the results of the factor analysis may probably not be very useful. In the present study, the KMO measure remains as   0.838 confirming the appropriateness of factor analysis. The Bartlett's test of sphericity specify whether a given correlation matrix is an identity matrix, which will indicate that the variables are unrelated. The significance level gives the result of the test. Very small values, less than 0.05, indicate that there are probably significant relationships among given variables. The values higher than 0.10 or so many indicate that the data are not suitable for factor analysis. In this case, the significance level has a very small value that is 0.000 which is less than 0.05, thereby by thus suggesting that the variables are highly correlated.

Factor Analysis: Communalities

Communality values are used to find how well each variable is explained by the factors. If the communality of a variable is closer to 1, the variable is the better explained by the factors. The following table shows the communalities which show the quantity of variance in each variable that is accounted for.

Table 10: Variables and the Communalities

S. No	Variables	Initial	Extraction
1	Reduced teaching time in the classroom	1.000	.797
2	Insufficient number of ICT tools in the organization	1.000	.622
3	Poor maintenance of ICT tools	1.000	.766
4	Reliability of online content	1.000	.735
5	ICT not adapted in my courses syllabus	1.000	.658
6	Lack of Time	1.000	.771
7	Increased stress level	1.000	.721
8	Insufficient budget allocation for ICT	1.000	.479
9	Leads to addiction to the technology	1.000	.566
10	Payment restriction for Important information I need	1.000	.664
11	Technical problems encountered while using ICT	1.000	.530
12	Lack of upgradation of ICT equipment	1.000	.600
13	Information overload	1.000	.655
14	Insufficient training on the application of ICT	1.000	.718
15	Syllabus pressure	1.000	.620

Extraction Method: Principal Component Analysis

Initial communalities are estimates of the variance in each variable which is accounted by all the factors. In case of principal components analysis method of extraction, initial communalities will be always equal to 1.0. Extraction communalities are estimates of the variance in each variable which is accounted for the factors in the factor solution. Small values which are less than 0.5 indicate variables that do not fit well with the factor solution, and they have to be dropped from the analysis. But, the extraction communalities are greater than 0.5, so there is no need to drop any variable from the analysis.

Factor Analysis: Rotated Component Matrix

The following table presents the rotated component matrix and also reports the factor loadings for each variable on the components or factors after rotation. Each factor loading value represents the partial correlation between the item and the rotated factor. These correlations help to formulate an interpretation of the factors, by looking for a common thread among the variables that have large loadings for a particular factor or component. The factor analysis rotation methods start with the original axes and apply a mathematical rotation which simplifies the relationships between factors and variables.

Table 11: Rotated Component Matrixes

S. No	Constraints in usage of ICT	Component			
		1	2	3	4
1	Insufficient training on the application of ICT	**.827**	.104	.080	-.132
2	Poor maintenance of ICT tools	**.793**	.152	-.044	-.037
3	Insufficient budget allocation for ICT	**.742**	.006	.105	-.198
4	Lack of upgradation of ICT equipment	**.647**	.274	-.239	-.123
5	Insufficient number of ICT tools in the organization	**.607**	.380	.129	.005
6	Technical problems encountered while using ICT	**.548**	.290	.147	-.270
7	Lack of Time	-.111	**.792**	.114	-.076
8	Syllabus pressure	.416	**.755**	.093	-.136
9	Leads to addiction to the technology	.562	**.607**	.012	-.191
10	Reduced teaching time in the classroom	.544	**.604**	-.030	.052
11	ICT not adapted in my courses syllabus	.520	**.586**	-.046	.060
12	Payment restriction for Important information I need	.075	.013	**.856**	-.166
13	Reliability of online content	-.011	.145	**.782**	.318
14	Information overload	-.094	-.100	.189	**.862**
15	Increased stress level	-.463	-.066	-.283	**.568**

- Extraction Method: Principal Component Analysis.
- Rotation Method: Varimax with Kaiser Normalization.
- Rotation converged in 8 iterations.

Through Factor Analysis, the extraction of four factors out of 15 variables related to constraints in ICT is done. We can infer from Table 4.18 that 6 variables correlate with first factor; 5 variables correlate with second factor; 2 variables correlate with third factor and2 variables correlate with fourth factor.

Table 12: Constraints in Usage of ICT factors

S. No	Constraints	Number of variables	Eigen value	% of Variance	Cumulative %
1.	ICT infrastructure factor	6	5.889	39.262	39.262
2	Time factor	5	1.655	11.030	50.292
3	Cost and reliability factor	2	1.339	8.924	59.215
4	Stress factor	2	1.019	6.795	66.010
Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0.838			Bartlett's Test of Sphericity: Chi –Square: 709.514		

Table 13: Details of Constraints in Usage of ICT factors

S. No	Constraints	Variables	Component
1	ICT infrastructure factor	Insufficient training on the application of ICT	.827
		Poor maintenance of ICT tools	.793
		Insufficient budget allocation for ICT	.742
		Lack of upgradation of ICT equipment	.647
		Insufficient number of ICT tools in the organization	.607
		Technical problems encountered while using ICT	.548
2	Time factor	Lack of Time	.792
		Syllabus pressure	.755
		Leads to addiction to the technology	.607
		Reduced teaching time in the classroom	.604
		ICT not adapted in my courses syllabus	.586
3	Cost and reliability factor	Payment restriction for Important information I need	.856
		Reliability of online content	.782
4	Stress factor	Information overload	.862
		Increased stress level	.568

The primary aim of administering factor analysis is to identify the significant factors that are constraints in the usage of ICT by dental students. To accomplish this purpose, analyses are done based on the responses of 106 dental students towards 15 variables related to constraints in usage of ICT and 4 representative factors are extracted

through factor analysis. The four factors extracted through factor analysis are ICT infrastructure factor, Time factor, Cost and reliability factor and Stress factor.

The first factor is "ICT infrastructure factor", it includes the variables Insufficient training on the application of ICT, Poor maintenance of ICT tools, Insufficient budget allocation for ICT, Lack of upgradation of ICT equipment, Insufficient number of ICT tools in the organization and Technical problems encountered while using ICT.

The second factors is "Time factor", it includes the variables Lack of Time, Syllabus pressure, Leads to addiction to the technology and Reduced teaching time in the classroom and ICT not adapted in my courses syllabus.

The third factor is "Cost and reliability factor", it includes the variables Payment restriction for Important information I need and Reliability of online content.

The fourth factor is "Stress factor" and it includes the variables Information overload and Increased stress level.

CONCLUSION

The rapid advancement of technology in the electronic age had a significant impact on virtually every field of study as well as academic libraries like those found in colleges and universities. Like other college libraries, information and communication technology (ICT) is essential to the development of dentistry colleges. Additionally, ICT use and utilization are now required in all academic and R&D institutes. The current study offers a broad overview of the ICT usage trends among chosen dentistry college students in Kerala's kottayam. This study brings into light on the different aspects of Information and Communication Technology (ICT) related resources and services utilization among dental college students Kottayam in Kerala. It is concluded that it is indispensable to conduct special training program and workshop or conference to library professionals to update their knowledge and train to provide service to patrons effectively and efficiently is needed to provide service special training programme and workshop to user community like students and the dental college Kottayam in Kerala.

REFERENCE

[1] Agava, S. L., & Underwood, P. G. (2020). ICT proficiency: perspectives of Tangaza University College librarians in Kenya. Library Management, 41(6/7), 487–501. doi:10.1108/lm-03-2020-0057.

[2] Ahmad, M. and Alam Ansari, M. (2008). Information technology (IT) awareness among dentists: a case study. International Information Communication and Education, 27(1-2), pp. 43-53

[3] Ahmad, T. and Sheikh, A. (2021), Impact of information and communication technologies (ICT) on student's learning: a case from university of the Punjab, Pakistan, Digital Library Perspectives, https://doi.org/10.1108/DLP-03-2021- 0027.

[4] Olatoye, O.I., Nekhwevha, F. and Muchaonyerwa, N. (2021),ICT literacy skills proficiency and experience on the use of electronic resources amongst undergraduate students in selected Eastern Cape Universities, South Africa,Library Management, Vol. 42 No. 6/7, pp. 471-479. https://doi.org/10.1108/LM-08-2020- 0118

[5] Nwosu, J.C; John, H.C and Akorede, O.J. (2018). Availability and Accessibility of ICT- based Instructional Tools in Medical Colleges in OgunState, Nigeria. Journal of Education and Human Development, 7 (1), 117-124.

[6] Mahadevan, B. and VijayaKumar, K.(2019). Usage of Information and Communication Technology (ICT) Tools by the Faculty Members in Pharmacy Colleges in Kerala. Journal of Information and Computational Science, 9 (11), 1609-1617.

[7] Adeleke, Dare Samuel D. S. and Emeahara, Evelyn Nkechi. (2016). Relationship between Information Literacy and Use of Electronic Information Resources by Postgraduate Students of the University of Ibadan. Library Philosophy and Practice (e-journal). Paper 1381, 1-17. http://digitalcommons.unl.edu/ libphilprac/138

[8] Anup Singh (2015). ICT and its Impact on Library and Information Services: A Case study of KendriyaVidyalaya Libraries. International Journal of Science and Research, 4 (1), 754-770

[9] Bhatt, Atul. (2012). An Analytical study of the Medical College Libraries of Gujarat in the Age of Information Technology. Library Philosophy and Practice (ejournal). 697. https://digitalcommons.unl.edu/libphilprac/69

[10] Chinnaraj, A. (2016). Information search pattern of medical professionals in digital environment: a survey of selected colleges in Coimbatore. International Journal of Library & Information Science (IJLIS), 5 (3), 85–90.

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