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Research Article

Digital Literacy-Practice among Academicians: A study conducted in a B-School

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Abstract

Introduction of technology in Indian education system emerged comparatively late but given the accessibility to internet at affordable pricing it is creating a synergistic environment for the digital literacy among the educational framework. Today India is aspiring to be among the top education destination in the scenario of global education... adoption of technology in education system forms the strong premise for the same. Digital literacy is the awareness attitude and the ability of people to use various digital tools and techniques in their everyday life, professional work – space and for their personal growth and development. An individual's ability to navigate in a digital environment, read, interpret and apply the information to create new knowledge form is being digitally literate. The paper aspires to explore the digital literacy and its penetration in the existing educational framework of a b-school in Mumbai, and its functioning by studying the digital literacy of their faculty members against various age groups and designations within the B-school.

Keywords: Digital literacy, Information technology literacy, Information communication technology, research, Information, Teaching methodology

Introduction

Digital literacy in higher education is gradually becoming part of the core literacy approach due to major infiltration of information and digital technology in the academic sector. Today technology has replaced the traditional educational norms with contemporary methods and techniques. The teachers hand written notes are replaced with typed words that are easier to extract and circulate among the students. Submission of assignments, creation of teaching material, and exchanging information is done on virtual platforms which also lead to better connect among the teacher and the students. The flexibility in communication through various online/ mobile platforms is a major game changer in today's academic scenario in India. This sudden surge of Digital technology in the Indian education is adding more quality, transparency and efficiency to the Indian educational system. Technology plays an important role in optimally utilizing the existing resources and leads to creation of new resources. Digital literacy awareness is measured against accessing of information (searching of various types of information for self growth, purpose of teaching-learning, research, accessing and using various digital educational platforms), managing information (how the information accessed/ searched is stored or archived, off line methods or online methods, soft copy/ hard copy formats), usage of various digital devices (digital devices like note pad, mobile phones, iPads, desktop, e readers are used how frequently and for what: professional work, research work, leisure, or personal use).

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Defining Digital Literacy

Digital literacy, according to the 'American Library Association', is ''the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.''

Literature Review

Bilawar PB, Pujar SM. (2016). describes how critical it is for teachers to equip themselves with the skills that enable them to retrieve, identify, authenticate, evaluate, organize and effectively use information. The paper highlights that digital literacy and information literacy has helped the faculty's knowledge in 1) research, teaching activities, 2) citations, consultancy, evaluation & project work, 3) information seeking behaviour. The study is about the impact of the above three points on the following aspects: updating knowledge, Undertaking research projects, Teaching and learning, Guiding students, Writing papers, Giving citations, Writing books and Evaluating thesis & dissertations.

Sevukan, R., & Gomathy V. (2016). major findings of the study indicated: Asst. Professors are more inclined to use digital literacy, 72.6% use of digital literacy for academic research, on line sharing tools- emails, Face book, Google, You tube, and Skype are commonly used.

Digital Literacy in Education UNESCO Institute of information & technology in education discusses that Digital literacy includes computer based skills information communication technology a) computer and internet based, b) information literacy – locate, indentify, retrieve and processing of the information, c) Information communication technology, d) civic skills, e) learning to learn lifelong skills. The paper describes and highlights basic component for Teachers & Learners, digital literacy has a positive effect on learning people who were taught completely online or embedded environment do better than clauses taught face to face. Further paper mentions digital literacy positively effects learning due to: easy access to information (available on net), manage information (on site) in life, integration and evaluation has to be taught i.e. difference between false & reliable information.

Universally digital literacy has been accepted the ability to retrieve, identify, authenticate, evaluate, organize and effectively use information.

Moghaddaszadeh H, Khaiser N. (2012). states the meaning of information literate individual is the one who has the ability to find the relevant information but also knows how to use that information to make a more informed decision and can use it for the purpose of problem solving.

Alkali Y E,Amichai-Hamburger Y. (2004). mentions that there is more to digital literacy than the ability to operate various kinds of digital devices. Yoram says digital literacy is inclusive of variety of cognitive skills which are essential when executing tasks on a digital platform or in a digital environment. In today's world digital literacy has become a "SurvivalSkill".

Based on the ability to be able to perform the above mentioned tasks the level of digital literacy can be evaluated. Martin A. (2008). Identifies 3 different levels of digital literacy:

Level 1- Digital competence (skills, concepts, approaches, attitudes etc), Level 2- Digital Usage (professional/discipline applications), and Level 3- Digital Transformation (innovation & creativity).

Digital competence keeps evolving as we are faced with life challenges. Here the term competence is inclusive of skills, attitude, competency, aptitude and knowledge.

Digital usage includes the ability to perform tasks in professional environment but also for trouble shooting and problem solving at work. Invariably digital usage leads to improved professional efficiency and productivity.

Digital transformation is the culmination of digital competence and digital usage that finally results in creation and innovation of new information, knowledge or even a process within the professional environment or domain. Saxena D. (2017).in her study mentions the acute need for more contemporary quality higher education that is absolutely imperative to develop in accordance with the global scenario of education. In the article Digital-literacy-transforming-education-system-globallydiscusses the constantly changing world and the information in it. The

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pace at which the information is required to be updated is challenge when it comes to updating the same in the form of text books, where as when we access and create information on digital platforms updating of the information is faster and efficient and economical. The article further highlights the constant growth of internet user across India.

What make an individual a digital literate...?

Conceptual Model

Statement of the problem

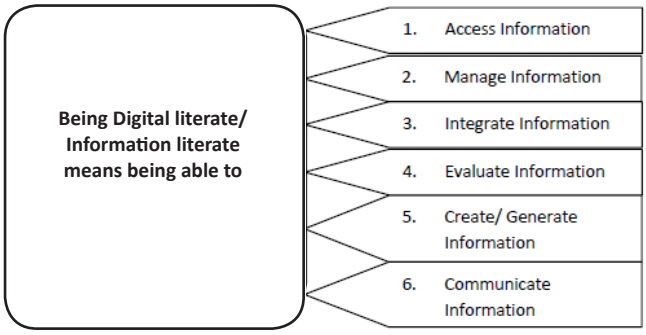

Figure 1

This paper attempts to identify the awareness of digital literacy among faculties of a B-school. The purpose of this paper is to highlight the infiltration of Digital literacy within the educational framework of a B-school.

Objectives of the paper

- To examine the level of digital literacy awareness among faculties in B-schools with reference to theirage.
- To examine the level of digital literacy awareness among faculties in B-schools with reference to theirdesignation.

Research Hypothesis

The following null hypotheses were formulated for the purpose of this study:

H1: There is significant relation between age and digital literacy awareness among the faculties of B-schools
H_{o}1: There is no significant relation between age and digital literacy awareness among the faculties of B-schools.
H2: There is significant relation between designation and digital literacy awareness among the faculties of B-schools
H_{o}2: There is no significant relation between designation and digital literacy awareness among the faculties of B-schools.

Research Methodology

The methodology adopted is primary data, where data is collected through a well designed questionnaire in a B-school.

The independent variables considered for digital literacy awareness are age and designation of the faculty members in a B-school. The sub-dependant variables considered to measure the Digital literacy awareness among the faculties are accessing of information, managing of information and usage of various digital devices.

Taking the same variables a questionnaire was drafted and the sample size of a 30 faculties of a B- school was taken. The data was further analysed using SPSS (Statistical package of social sciences) for this study.

Descriptive Statistics Table 1.1

Digital literacy	Age group	Mean	Std. Deviation	Std. Error
Accessing of Information	25-30	3.4444	.53576	.30932
	31-35	3.8889	.34694	.20031
	36-40	3.6875	.27368	.09676
	41-45	3.5667	.34561	.15456
	46-50	3.5556	.09623	.05556
	51-55	3.4444	.41944	.24216
	56-60	2.8333	.75462	.33747
	Total	3.4833	.50732	.09262
Managing Information	25-30	2.4667	.61101	.35277
	31-35	2.2333	.55076	.31798
	36-40	2.5125	.63569	.22475
	41-45	2.6200	.44944	.20100

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	46-50	3.0333	.28868	.16667
	51-55	3.1333	.30551	.17638
	56-60	2.4400	.40373	.18055
	Total	2.6000	.52719	.09625
Usage of digital devices	25-30	4.2857	3.23564	1.86810
	31-35	6.2381	1.29625	.74839
	36-40	5.6964	2.05810	.72765
	41-45	6.0571	1.61814	.72365
	46-50	8.0000	0.00000	0.00000
	51-55	6.5238	2.55684	1.47619
	56-60	5.9714	2.29996	1.02857
	Total	6.0286	2.04434	.37324

(Source Authors calculations based on primary data at 95% confidence level)

Data Analysis

Descriptive statistics for age group in years

With reference to the table for identifying the digital literacy with respect to accessing of information, managing information and usage of various digital devices with respect to age of faculty members the analysis is as follows:

Accessing information was found to be highest in the age group of 25-30 followed by the age group of 56-60; however age group of 46-50 were found to be lowest as per the descriptive statistics. It was moderately high in the age group of 31-35 and51-55.

H1: There is significant relation between age and digital literacy awareness among the faculties of B-schools
H_o1: There is no significant relation between age and digital literacy awareness among the faculties of B-schools.

ANOVA Table 1.2

				Sum of Squares	df	Mean Square	F	Sig.	
Accessing of information	Between Groups	(Combined)		2.999	6	.500	2.575	.047	**Null Rejected**
		Linear Term	Unweighted	1.028	1	1.028	5.295	.031	**Null Rejected**
			Weighted	1.700	1	1.700	8.755	.007	**Null Rejected**
			Deviation	1.299	5	.260	1.339	.284	
	Within Groups			4.465	23	.194			
	Total			7.464	29				
Managing information	Between Groups	(Combined)		2.065	6	.344	1.320	.288	**Null Accepted**
		Linear Term	Unweighted	.634	1	.634	2.431	.133	
			Weighted	.359	1	.359	1.379	.252	
			Deviation	1.705	5	.341	1.308	.295	
	Within Groups			5.995	23	.261			
	Total			8.060	29				
Usage of digital devices	Between Groups	(Combined)		22.543	6	3.757	.876	.528	**Null Accepted**
		Linear Term	Unweighted	7.939	1	7.939	1.851	.187	
			Weighted	5.896	1	5.896	1.375	.253	
			Deviation	16.646	5	3.329	.776	.577	
	Within Groups			98.657	23	4.289			
	Total			121.200	29				

(Source Authors calculations based on primary data)

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Annova test was used considering that we are checking the variance between accessing of information, managing information and usage of digital devices among various age groups of faculty members. With reference to the given sample it is been observed that there is significant relationship between age and digital literacy awareness with respect to accessing of information amongst faculty. There is no significant relationship found in digital awareness with reference to managing information and usage of digital devices.

Table 2.1

Group Statistics					
Gender		N	Mean	Std. Deviation	Std. Error Mean
Accessing of information	Male	14	3.3095	.65976	.17633
	Female	15	3.6444	.26627	.06875
Managing information	Male	14	2.5929	.55396	.14805
	Female	15	2.5667	.51362	.13262
Usage of digital devices	Male	14	6.1735	2.27275	.60742
Female		15	5.7619	1.86706	.48207

(Source Authors calculations based on primary data at 95% confidence level)

With reference to the table for identifying the digital literacy with respect to accessing of information, managing information and usage of various digital devices with respect to Gender of faculty members the analysis is as follows:

Among the male gender the accessing of information was found to be higher as compared to the female faculty members. Similarly with respect to usage of digital devices among male faculty members was found to be moderately higher than that of females.

When it came to managing information once again comparatively male faculty member were found to be more adept when compared to their female counter parts.

T-Test Table 2.2

Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Accessing of information	Equal variancesassumed	6.883	.014	-1.816	27	.081	-.33492	.18444
	Equal variances not assumed			-1.770	16.891	.095	-.33492	.18926
Managing information	Equal variances assumed	.023	.880	.132	27	.896	.02619	.19823
	Equal variances not assumed			.132	26.431	.896	.02619	.19876
Usage of digital devices	Equal variances assumed	.414	.526	.534	27	.597	.41156	.77010
	Equal variances not assumed			.531	25.237	.600	.41156	.77547

(Source Authors calculations based on primary data at 95% confidence level)

Test was performed on the data to check the gender perception of male and female faculties. The t-Test supports that digital literacy awareness with respect to accessing of information and the gender of the faculty does have a significant role where as digital literacy awareness with respect to managing information and usage of digital devices there is no significant relation with gender of the faculty.

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Descriptive statistics for Designation

Descriptive Statistics Table 3.1

Report				
Designation		**Accessing Information**	**Managing Information**	**Usage of Devices**
Assistant Professor	Mean	2.4143	2.2929	5.5000
	N	14	14	14
	Std. Deviation	.46053	.42871	2.02864
	Std. Error of Mean	.12308	.11458	.54218
	Variance	.212	.184	4.115
Associate Professor	Mean	2.9833	2.5625	6.4286
	N	8	8	8
	Std. Deviation	.75824	.55275	2.17995
	Std. Error of Mean	.26808	.19543	.77073
	Variance	.575	.306	4.752
Professor	Mean	2.4917	2.4125	6.5536
	N	8	8	8
	Std. Deviation	.94277	.37201	1.96535
	Std. Error of Mean	.33332	.13153	.69486
	Variance	.889	.138	3.863
Total	Mean	2.5867	2.3967	6.0286
	N	30	30	30
	Std. Deviation	.71318	.44989	2.04434
	Std. Error of Mean	.13021	.08214	.37324
	Variance	.509	.202	4.179

(Source Authors calculations based on primary data at 95% confidencelevel)

With reference to the table for identifying the digital literacy with respect to the accessing of information, managing information and usage of various digital devices with respect to designation of faculty members the analysis is as follows.

Accessing information was found to b highest among the professors followed by the associate professors, assistant professors scored the lowest when it came to accessing information.

Managing information was found to be highest among associate professors followed by the assistant professors. With respect to managing information professors scored moderately low when compared to associate professors and assistant professors.

Usage of digital devices was found to be highest among the associate professors, followed by the assistant professors. Professors were moderately lower when compared to the other two.

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ANOVA Table 3.2

			Sum of Squares	df	Mean Square	F	Sig.	
Accessing of information * Designation	Between Groups	(Combined)	1.747	2	.873	1.814	.182	Null Accepted
	Within Groups		13.003	27	.482			
	Total		14.750	29				
Managing information * Designation	Between Groups	(Combined)	.373	2	.186	.916	.412	Null Accepted
	Within Groups		5.497	27	.204			
	Total		5.870	29				
Usage of devices * Designation	Between Groups	(Combined)	7.396	2	3.698	.877	.427	Null Accepted
	Within Groups		113.804	27	4.215			
	Total		121.200	29				

(Source Authors calculations based on primary data at 95% confidencelevel)

H2: There is significant relation between designation and digital literacy awareness among the faculties of B-schools

H_o2: There is no significant relation between designation and digital literacy awareness among the faculties of B-schools.

With reference to the given sample it is been observed that there is no significant relationship found in digital awareness with reference to accessing information, managing information and usage of digital devices and the designations of the faculty members.

Findings

Based on the statistical results for the following hypothesis based findings were made:

Digital literacy with respect to accessing of information was found to be higher in male faculties and it was also identified that the age group of faculties between 25-30 and 56-60 are more actively accessing information as compared to other age groups. The younger generation and the senior generation on the extreme scale are found to be more curious and experimental when it came to accessing information.

Usage of various digital devices was also found to be higher among the male faculty members, which further validates the higher rate of information accessing among the male faculty members. Males over all were identified as more digitally savvy when it came to overall digital experience with respect to accessing of information, managing information or using various digitaldevices.

Interestingly it was observed that Designation wise professors were found to be more active in accessing information where as comparatively assistant professors scored comparatively low. One can assume that research work is undertaken more frequently at associate and professor level therefore those designation showed higher frequency of information access.

Conclusion & Recommendations

Academics today is evolving continuously due to technological impact on society, work and in personal spaces. It is important to ensure the academicians involved in the process of imparting knowledge to the upcoming work force are also updated and fluent in using technology to create a synergistic approach.

Regular workshops and trainings among the faculty should be encouraged to bridge the digital literacy practice among them and gradually bring them into the digital domain of knowledge accessing, managing and sharing.

Digital transformation which is the culmination of digital competence and digital usage needs to be cultivated among the faculty members, which in future will result in creation and innovation of new knowledge, information or even a process for the existing education framework.

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