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Role of ICT Tools in Performance of Students: An Evaluative Study

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Abstract: Information and communication technology (ICT) now a days has almost become an inseparable part of every sector be it education or industrial sector, related to one's life. The students now are spending a lot of their time using the ICT or internet facilities. Students are making use of search engines, e-books, virtual lectures, online databases for collecting educational material. As ICT brings forward countless of benefits which enables the students with the right skill and outlook to stay ahead in the race.During the last two decades even higher education institutions have invested heavily in information and communication technologies (ICT). As ICT tools act as source of help for teachers and for the students as well. This works is an effort to evaluate the role of Information and Communication Technology resources in bringing changes in academic performance of students. For the purpose of this study student who are pursuing graduation, post-graduation and degree of philosophy are taken as sample for investigation. Data was collected by means of a questionnaire. Questionnaire was developed on the basis of extensive literature and after making keen observation of students. This study is descr[illegible]al in nature. The hypothesis stated in the study is tested by [illegible]

Keywords: Information and communication [illegible]ines, e-books, chi square test, etc.

I. INTRODUCTION

Inform[illegible]
to technolog[illegible]
through telecommunications.Information and Communication Technology (ICT) has now become an important part of educational organizations across the world. During the last two decades higher education institutions have invested heavily in information and communication technologies (ICT). ICT has had a major impact in the educational sector in terms of teaching and learning methods. Information and communication technology not only has enhanced students learning potentials but also has empowered teachers by making large variety of information easily accessible to them.

There are multifold benefits of incorporating ICT in educational sectors. Teachers by making use of different online resources , apps, Virtual lesson plans, grading software and online assessments not only can save their time but also can create long lasting impact on students through technology based teaching.Use of ICT for teaching students has got several benefits for students as well .Technology usage increases students degree of engagement in the topic taught, it improves students learning and knowledge retention capacity, students can learn useful life skills like critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity through technology.

II. LITERATURE REVIEW

[illegible]sain&et. al. (2017) investigated the effects [illegible]ation and communication technology on the [illegible] academic achievement and retention in chemistry. Authors have statistically found that information and communication technology positively affects students' academic achievement and retention. Ikwuka, O. I. and Adigwe Joseph Eluemunor Henry (2017) in their work examined the effect of Information and Communication Technology on secondary school students' academic performance in Oshimili. The results showed that students who were taught with ICT had better academic performance. They also found that the gender has no significant effect in the academic performance of students. MohdSaziliShahibi (2017) intheir study found that Online Media usage for Education helps students in improving their academic achievement. Md. ShamimTalukder, &et. al. (2015) has explored the impact of ICT on the performance of students at the undergraduate level. The research sample was taken from a group of students studying in the undergraduate level at different private and public universities in Bangladesh. The study found that there is no significant relation between the use of ICT and the performance of the students but the ICT addiction (habit based use of internet everyday) affects the performance of the students negatively.HarlinaHalizahSiraj(2015)determine the association between Internet usage and academic

performances of students in a public University of Malaysia. Medical students were taken as sample for the study. The study concluded that Medical students with high internet usage are associated with higher academic performance.The literature reviewed shows that studies on the present field of research have taken place in past but are lesser in number. Also with reference to Indian studies , the number is very less. From the above literature it could be concluded that there is a relation between students' academic performance and use of ICT tools for academic purposes but their exists variability in findings of studies done in past.

III. OBJECTIVES

- To identify the reasons for which students use ICT resources for academic purposes.
- To find out relationship between use of ICT resources for academic purposes by students of different program and their academic performance.

IV. HYPOTHESIS

H0 - There is norelationship between use of ICT resources for academic purposes by students of different program and their academic performance.

Ha- There is a significant relationship between use of ICT resources for academic purposes bystudents of different program and their academic performance.

IV. METHODOLOGY OF THE STUDY

This study is exploratory and empirical in nature. For achieving the objectives of the study, primary data is used as source of information. Primarydata is collected from the respondents through a close ended questionnaire. The questionnaire is having three main questions along with other general questions required for the study. One of the questions is related to various ICT tools used by students. The another question is related to ranking of benefits of using ICT tools for educational purposes. The third question based on hypothesis of the study is designed on 5 point likert scale. It is related to ICT tools influenced academic performance of students enrolled in different courses.A sample of 66 students was taken randomly for collecting information. The students are enrolled in graduation, post-graduation and doctor of philosophy program of university. For the purpose of data analysis, chi square test isbeing applied.The analysis is done making use of SPSS.

V. FINDINGS AND ANALYSIS

I. Status of Usage of various ICT tools by students

In the questionnaire, one of the question is related to finding out the usage percentage of different ICT tools like Search engine , Online databases, Virtual lectures, E books by students. The responses for the question showed that search engines like google, Wikipedia, etc.individually have got highest acceptance among the respondents. The result in tabular and graphical form is shown below.

Table 1: Status of Usage of different ICT Tools

ICT Resources	No. of Users
E books	4
Online database	7
Search Engine	37
Search Engine+ E book	3
Search Engine + Online database	1
Search Engine + Virtual lectures	1
Online database+ Virtual lectures	1
Search Engine + E books	1

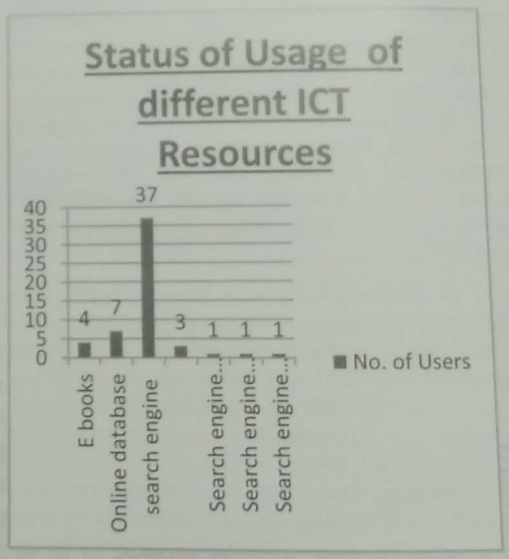

Figure 1: Status of Usage of different ICT Resources

II. Ranking of benefits of using ICT tools

There is also a question regarding ranking of benefits of ICT resources for educational purposes in order of preference. On the basis of ranking provided to various benefits by respondents, it is found that the foremost benefit for which students use ICT tools is "ICT sources has made Knowledge acquisition easy". "ICT sources have made Knowledge acquisition interesting" is the benefit which is at second position. There are two benefits which are kept at third position by students i.e. "ICT sources are Anytime and anywhere available source of learning" and "Use of ICT sources has resulted in Improved learning and higher knowledge retention". The benefit which is least preferred is "ICT sources has made Large variety of information easily accessible".

III. Chi Square test for relationship between usage of ICT tools and academic performance

In order to find out the relationship between usage of ICT tools and academic performance of students enrolled in different programs , chi square test was applied. The [illegible] measured in terms of [illegible] performance. [illegible] submitted, Effectiveness of [illegible] presentation, [illegible] knowledge.The [illegible]

Table 2: Increase in Overall performance by use of ICT tools

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	11.005a	4	.027	.024		
Likelihood Ratio	12.520	4	.014	.020		
Fisher's Exact Test	11.626			.015		
Linear-by-Linear Association	7.339b	1	.007	.008	.004	.002
N of Valid Cases	66					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.91.

b. The standardized statistic is 2.709.

In above table, 3 cells have cell frequency less than 5.So Fishers test statistics will be considered for drawing conclusion in place of chi square test statistics .The value of Fishers test statistics is .015at 4 degree of freedom. The value of Fishers test statistics is lesser than 0.05. Thus the null hypothesis is rejected. Therefore the interpretation drawn is there exist a significant relationship between use of ICT resources for academic purposes by students of different program and their overall academic performance.

Table 3: Informational quality of assignment submitted

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	4.364a	4	.359	.379		
[illegible]elihood	5.627	4	.229	.299		
	4.084			.402		
	1.576b	1	.209	.240	.131	.048
[illegible] Cases	d66					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.27.

b. The standardized statistic is 1.256.

In table3, 33.3 % of cells have cell frequency less than 5 so Fishers test statistics will be considered for drawing conclusion.The value of Fishers test statistics is .402at 4 degree of freedom. The value of Fishers test statistics is more than 0.05. Thus the null hypothesis is accepted. Therefore the interpretation drawn is there exist no relation between students of different programs and their academic performance with reference to informational quality of assignments submitted by them.

Table 4: Effectiveness of projects

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.006a	4	.909	.929		
Likelihood Ratio	.960	4	.916	.935		
Fisher's Exact Test	1.164			.935		
Linear-by-Linear Association	.385b	1	.535	.593	.315	.089
N of Valid Cases	66					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.27.

b. The standardized statistic is .621.

In above table the value of Fishers test statistics is .935at 4 degree of freedom. The value of Fishers test statistics is more than 0.05.Thus the null hypothesis is accepted. Therefore the interpretation drawn is that there exist no relation between students of different programs and their academic performance with reference to effectiveness of projects performed by them.

Table 5: Attractiveness of presentation

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.986a	4	.200	.200		
Likelihood Ratio	7.424	4	.115	.152		
Fisher's Exact Test	5.582			.222		
Linear-by-Linear Association	4.111b	1	.043	.051	.028	.013
N of Valid Cases	66					

a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is 1.70.

b. The standardized statistic is 2.027.

In above table Fishers test statistics will be considered for drawing conclusion. The value of Fishers test statistics is .222at 4 degree of freedom. The value of Fishers test statistics is more than 0.05.Thus the null hypothesis is accepted. Therefore the interpretation drawn is there exists no relation between students of different programs and their academic performance with reference to effectiveness of presentation

Table 6: Level of knowledge

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	7.519a	4	.111	.106		
Likelihood Ratio	9.025	4	.060	.082		
Fisher's Exact Test	7.080			.118		
Linear-by-Linear Association	6.806b	1	.009	.009	.006	.003
N of Valid Cases	66					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.70.

b. The standardized statistic is 2.609.

In above table Fishers test statistics will be considered for drawing conclusion.The value of Fishers test statistics is .222at 4 degree of freedom. Thus the null hypothesis is accepted. Therefore the interpretation drawn is there exist no relation between students of different programs and their explore new fields of academic knowledge by making use of ICT tools.