Competencies of Students in Application of Information Communication Technology

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Abstract: *ICT are basically information-handling tools-a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information. They include the 'old' ICTs of radio, television and telephone, and the 'new' ICTs of computers, satellite information transmitting devices and the internet. Information revolution has a deep impact on nearly all walks of life. The core one and the most promising tool of information age is the computer. But ICTs are more than just these technologies like telephone, radio and television, although these technologies are now given less attention, but they have a longer and richer history as informational tools. For instance, radio and television have been used for over forty years been used for open and distance learning, although print remains the cheapest, they were the most accessible and therefore most dominant delivery mechanism in both developed and developing countries. In recent years there has been a ground for interest in how computers and the internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non formal settings.*

Keywords: Information communication technology, purpose of ICT, software applications, satellite communication devices, educational system

I. INTRODUCTION

A key finding of the Survey shows that, across countries surveyed, students are more confident in their digital competencies when they have high access to use of ICT at home and at school compared to students having low access to use them at school and high access to use at home, or low access use at both places. Such higher confidence applies to students' operational ICT and social media skills, their ability to use the internet responsibly, and, to a slightly less extent, their ability to use the internet safely. These students are not just confident in their digital competences but also positive about the impact of using ICT in Teaching and Learning. Such students, having high access use to ICT at home and at school, are defined in the survey as digitally confident and supportive students. These findings underline how important it is to effectively develop ICT use during lessons at school for students Survey of Schools using ICT in Education concluded that students become more confident in their digital competence, regardless of the many opportunities some have to use ICT out of school, and even more fundamentally for those still lacking access to it at home.

ICT brings a lot of advantages in education. Firstly, independent access for the students to their education can be improved by the computer. Secondly, ICT enable the student who needs a special education to accomplish work or task at their own pace. In addition, with the help of ICT, students can communicate more easily and especially for those who have profound and multiple learning difficulties. Moreover, using the voice communication by students enable most of them to aid gain the confidence or credibility of society or community. Furthermore, students can be motivated to use the internet at home for schoolwork. On the other hand, for those with communication difficulties or problems, ICT could unblock the hidden potential of students. One of the benefit that arises from the use of ICT is that the students can demonstrate their achievements in ways which might not be possible with traditional methods. The advantages of using ICT in education also include the enabling of tasks to be tailored to suit individual skills and abilities.

Moreover, the ICT has the positive impact on students that enable them to any place learning. Use of the new technology of ICT, the off –campus delivery was an option for the students who were unable to attend the classes. Now a day, more students are accepted with these technology-facilitated learning settings, about the application as well as impact of ICTs among students.

1.1 Objectives:
1. To study the socio economic background of students.
2. To find out the competencies of students in application of information communication technology.

II. RESEARCH METHODOLOGY

To complete the above objectives by applying the appropriate research methodology in the present study, in the study area of research two group of targeted respondents i.e. undergraduate and post graduate students are running in the study. In district Kanpur Nagar, Chhatrapati Sahuji Maharaj University, Kanpur was selected purposively for the study and eight colleges are selected randomly with target of 50 students per college. The findings of the study have been properly discussed in the light of the valuable research material on the subject and the subsequently summarized throwing light on all major aspects covered within the scope of the study. The conclusion and action implication are made to satisfy the fruit bearing aspect of the research. District Kanpur Nagar Uttar Pradesh was purposively selected for the study. This helped in collecting the necessary information accurately and timely.

III. RESULT AND DISCUSSION

Search Engines

Table 1.1 Distribution of the students based on their use of Search Engines.

S. No.	Search engine	Boys			Mean Score	Rank	Girls			Mean Score	Rank
		Frequently	Occasionally	Never			Frequently	Occasionally	Never		
1.	Yahoo.com	90 (22.5)	90 (22.5)	20 (5.0)	2.35	II	95 (23.7)	80 (20.0)	25 (6.3)	2.35	II
2.	Google.com	180(45.0)	20 (5.0)	-	2.90	I	170(42.5)	30 (7.5)	-	2.85	I
3.	Ask.com	50 (12.5)	70 (17.5)	80 (20.0)	1.85	III	55 (13.7)	60 (15.0)	85 (21.3)	1.85	III
4.	Bing.com	-	40 (10.0)	160 (40.0)	1.20	IV	-	50 (12.5)	150 (37.5)	1.25	IV
5.	Excite.com	5 (1.3)	25 (6.3)	170 (42.5)	1.18	III	-	30 (7.5)	170 (42.5)	1.15	V

Data presented in the table 1.1 shows the distribution of respondent according to use of search engine 45.0% of boys usinggoogle.com frequently with mean score of 2.90 and rank I, followed by 22.5percent and 22.5% of boys using yahoo.com as search engine frequently and occasionally with mean score of 2.35 and rank II. 12.5% frequently and 17.5 percent of occasionally were using theask.com search engine in the study area with mean score of 1.85 and rank III. As well as 1.3% of boys frequently and 6.3 % of them occasionally of boys were using excite.com as search engine in the study area with mean score of 1.18 as same rank III . Whereas 10% occasionally of boys using bing.com as search engine with mean score 1.20 and rank IV.

42.5% girl students were usinggoogle.com frequently and 7.50% of them were occasionally using Google as search engine with mean score of 2.85 and rank I , followed by 23.7percent girls who frequently and 20% of them who were occasionally girls were using yahoo.com as search engine with mean score 2.35 and rank II. 13.70% frequently and 15.0 % of them occasionally were using the search engine ask.com in the study area with mean score of 1.85 and rank III, where as12.50 percent of girls occasionally using bing.com as search engine with mean score of 1.25 and rank IV another hand Excite.com was used by7.50 percent girls occasionally use it with mean score of 1.15 and rank V.

3.1 Current Level of ICT Competencies

Table 1.2 Distribution of the students based on their current level of ICT competencies

N =400

S. No.	ICT Competencies	Symbol	None	Basic	Intermediate	Advanced	Mean Score	S.D.	Rank
1.	Setting up a system	A	185 (46.3)	110 (27.5)	85 (21.3)	20 (5.0)	0.85	0.85	III
2.	Turning on and off the system	B	70 (17.5)	180 (45.0)	95 (23.7)	55 (13.7)	1.34	1.14	I
3.	Open and creating a file and folder using mouse	C	65 (16.3)	210 (52.5)	85 (21.3)	40 (10.0)	1.25	1.01	II
4.	Printing documents	D	60 (15.0)	225 (56.3)	70 (17.5)	45 (11.3)	1.25	1.01	II
5.	Move/ copy files between drives	E	100 (25.0)	210 (52.5)	90 (22.5)	-	0.98	0.67	IV
6.	Formatting system and compressing file	F	145 (36.5)	185 (46.3)	70 (17.5)	-	0.81	0.59	V
7.	Scanning text and pictures with antivirus	G	235 (58.7)	110 (27.5)	55 (13.7)	-	0.55	0.52	VI

The table 1.2 reveals the distribution of respondents according to general competencies of information communication technology, 45% of the student were have basic and 23.7 per cent students were have intermediate competency to turning on and off the computer system with mean score of 1.34, standard deviation 1.14 and rank I. 52.5 per cent respondents were basic and 21.3 per cent have intermediate competency of open and creating a file and folder using mouse with mean score of 1.25, standard deviation 1.01 and rank II, as well as 56.3% students were having basic competency and 17.5% of students have intermediate competency to printing document with mean score of 1.25, standard deviation 1.01 and rank II. Whereas 27.5% of students able to basic competency of setting up a computer system and 21.3% were good in intermediate skill with mean score of 0.85, standard deviation 0.85 and rank III, followed by 52.5 % of student basic and 22.5% student were having intermediate competency to move/ copy files between drives with mean score of 0.98, Standard Deviation 0.67 and rank IV. 46.3 per cent students were have basic skill and 17.5% of student were able to intermediate competency to formatting system and compressing file size with mean score of .81, standard deviation 0.59 and rank V. While only 13.7 % of student were having basic as well as 27.5% student have intermediate competency about scanning text and pictures with antivirus with mean score of 0.55, SD0.52 rank VI.

Under study in concluding lines we have found that most of the student were having basic and intermediate competency of ICT and some students were also having advance skill in this field but according to research basic and intermediate competency towards information communication technology is enough to increase the knowledge level of student in each and every field of study.

3.2 Competencies in MS Word

Table 1.3 Distribution of the students based on their ICT competencies in MS Word

N = 400

S. No.	Competencies in MS Word	Symbol	None	Basic	Intermediate	advanced	Mean Score	S.D.	Rank
1.	Page up and down	A	55 (13.7)	230 (57.5)	90 (22.5)	25 (6.3)	1.21	0.91	I
2.	Editing text by using spell checker	B	90 (22.5)	210 (52.5)	75 (18.7)	25 (6.3)	1.09	0.87	II
3.	Inserting pictures, graphs and diagrams	C	150 (37.5)	195 (48.7)	50 (12.5)	5 (1.3)	0.78	0.57	III

4.	Creating and save new document templates and tables	D	145 (36.3)	210 (52.5)	40 (10.0)	5 (1.3)	0.76	0.52	IV

The data in the table 1.3 shows the distribution of respondents according to ICT competencies in Microsoft word, 57.5 % student were have basic and 22.5 of students have intermediate and only 6.3% of students having advanced skill about how to do page up and down with mean score of 1.21, standard deviation 0.91 and rank I, followed by 52.5 % of students who were having basic and 18.7 per cent intermediate competency of editing text by using spell checker respectively with mean score of 1.09, standard deviation 0.87 and rank II. While discussing about ICT competencies of students in Microsoft word found that 48.7 % of students were having basic skill and 12.5% of student having intermediate as well as 1.3 % of students were advanced competency in inserting pictures, graphs and diagrams with mean score of 0.78 ,standard deviation 0.57 and rank III. while 52.5 per cent of students were basic and 10% of students having intermediate competency in creating and saving new document templates and table with mean score of 0.76, standard deviation 0.52 and rank IV.

On the basis of above finding it can be concluded that majority of respondents were having basic competency in page up and down and text editing as well as inserting picture, graph and diagrams also so it may be highly helpful to make a presentation on any topic related to course curriculum in the research study area.

3.3 Competencies in MS Excel

Table 1.4 Distribution of the students based on their ICT competencies in MS Excel

N = 400

S. No.	Competencies in MS Excel	Symbol	None	Basic	Intermediate	Advanced	Mean Score	S.D.	Rank
1.	Feeding data into the cell	A	60 (15.0)	255 (63.7)	85 (21.3)	-	1.06	0.65	III
2.	Formatting a MS excel sheet	B	85 (21.3)	190 (47.5)	100 (25.0)	25 (6.3)	1.16	0.94	I
3.	Conversion of sheet from excel to other formats	C	105 (26.3)	185 (46.3)	90 (22.5)	20 (5.0)	1.06	0.87	II
4.	Understand and use relative and absolute cell-referencing	D	145 (36.3)	215 (53.7)	35 (8.7)	5 (1.3)	0.75	0.50	IV

The data revealed in the table 1.4 shows the distribution of respondents according to ICT competencies in Microsoft Excel,47.5% of students were having basic competency and 25.0% of them were having intermediate competency in formatting in MS Excel sheet with mean score of 1.16, (standard deviation 0.94) and rank I, followed by 46.3 % of students having basic and 22.5% of students who were having intermediate skill to conversion of sheet from Excel to other formats with mean score of 1.06, standard deviation 0.87 and rank II . 63.7% of student were have good competency to feeding data into the cells with mean score of 1.06, standard deviation 0.65 and rank III, while 53.7 percent students were having basic skill and 8.7 % of student were having intermediate competency in using relative and absolute cell referencing with mean score of 0.75, standard deviation 0.50 rank IV.

Finding reveals that most of the respondents in the study area possessed basic and intermediate level of competency in use of Microsoft Excel. The application of computer skill and ability to use computer and related technologies to improve learning productivity and performance. Same result is broadly suggested by **Prensky Birch & Irvine V. (2004)**

3.4 Competencies in MS Power Point

Table 1.5 Distribution of the students based on theirICT competencies in MS Power Point

N =400

S. No	Competencies in MS Power point	Symbol	None	Basic	Intermediate	advanced	Mean Score	S.D.	Rank
1.	Preparing slide layout	A	88 (22.0)	238 (59.5)	54 (13.5)	20 (5.0)	1.02	0.75	I
2.	Creating a basic presentation	B	90 (22.5)	255 (63.7)	40 (10.0)	5 (1.3)	0.88	0.52	II
3.	Creating text animation	C	110 (27.5)	260 (65.0)	25 (6.3)	5 (1.3)	0.81	0.45	IV
4.	Inserting pictures, graphs and diagrams	D	125 (31.3)	270 (67.5)	5 (1.3)	-	0.70	0.16	V
5.	Producing appropriate handout formats and rearrange slides	E	135 (33.7)	235 (58.7)	22 (5.5)	8 (2.0)	0.76	0.48	III

The data pertaining in the table 1.5 shows the distribution of respondents according to ICT competencies in Microsoft PowerPoint, 59.5% of respondents having basic skills and 13.5% of respondents were having intermediate competency in preparing slide layout with mean score of 1.02, standard deviation 0.75 and rank I , while 63.7 per cent were highly competent in basics of computer and 10% of them were having good skill in creating a basic presentation with mean score of 0.88, S.D.(0.52) and rank II. 58.7 percent of students were have basic and 55% students have great competency in producing appropriate handout format and rearrange slides with mean score of 0.76, standard deviation 0.48 and rank III, whereas 65% of respondents were have basic competencies and 6.3% having intermediate and some of them such as 1.3 % of them were have great level of competency in creating text animation with mean score of 0.81, standard deviation (0.45) and rank IV. 67.5 % of students were able in basic skill and 1.3 % of students have competency in inserting pictures, graphs and diagrams with mean score of 0.70, standard deviation 0.16 and rank V in research study area.

In concluding lines computer in MS PowerPoint result indicates that most of the students have basic and intermediate competency to operate Microsoft PowerPoint and ability to create basic presentation by inserting picture, graphs and diagrams with creation of text animation.

3.5 Competencies in Internet and E-Mail

Table 1.6 Distribution of the students based on their ICT competencies in Internet and E-mail

N=400

S. No.	Competencies in Internet and E-mail	Symbol	None	Basic	Intermediate	advanced	Mean Score	S.D.	Rank
1.	Access an internet site	A	65 (16.3)	260 (65.0)	60 (15.0)	15 (3.7)	1.06	0.72	I
2.	Creating e-mail account send and receive massages	B	70 (17.5)	270 (67.5)	50 (12.5)	10 (2.5)	1.00	0.63	II
3.	Attach files to outgoing and incoming	C	85 (21.3)	290 (72.5)	25 (6.3)	-	0.85	0.35	III
4.	Creating blog spot and face book account	D	145 (36.3)	250 (62.5)	5 (1.3)	-	0.65	0.16	IV

Table 1.6 reveals the distribution of respondents according to ICT competencies in internet and Email, 65% of students were having basic and 15% of students have intermediate skill to assess on internet site with mean score of 1.06, standard deviation 0.72 and rank I followed by 12.5% of students who had intermediate skill and 67.5% have basic ability to create an email account send and receive messages with mean score of 1.00, standard deviation 0.63 and rank II. Although only

6.3 % of students have intermediate skill in internet use but 72% students had basic competency to attach files to outgoing and incoming messages with mean score of 0.85, standard deviation 0.35 and rank III, whereas 62.5% of student have basic skill of creating blog spot and Face book account on internet site with mean score of .65, standard deviation 0.16 and rank IV.

The result presented in the table indicates that majority of the respondents werehaving basic and intermediate skill related to accessing an internet site and creating and using email as well as know about create and use of blog spot and face book on internet site.

3.6 Competencies in WWW

Table 1.7 Distribution of the students based on their ICT competencies about WWW

N = 400

S. No.	Competencies in WWW	Symbol	None	Basic	Intermediate	advanced	Mean Score	S.D.	Rank
1.	Language specific browsing	A	130 (32.5)	230 (57.5)	30 (7.5)	10 (2.5)	0.80	0.55	II
2.	Format specific browsing	B	150 (37.5)	220 (55.0)	30 (7.5)	-	0.70	0.39	III
3.	Downloading free software	C	110 (27.5)	235 (58.7)	40 (10.0)	15 (3.7)	0.90	0.65	I
4.	Downloading files	D	95 (23.7)	280 (70.0)	25 (6.3)	-	0.83	0.35	IV
5.	PDF files downloading	E	150 (37.5)	225 (56.3)	25 (6.3)	-	0.69	0.35	IV
6.	Downloading audio and video files	F	170 (42.5)	220 (55.0)	10 (2.5)	-	0.60	0.22	V

The perusal of table 1.7 shows the distribution of respondents according to ICT competencies in world-wide-web, 58.7 % of student were having basic skill and 10% of students have intermediate competency in downloading free software with mean score of 0.90, standard deviation (0.65) and rank I, followed by 57.5% students were having ability to use language-specific browsing with mean score of 0.80, standard deviation 0.55 and ranks II. 55% of student good competency in basics of computer system as well as 7.5 % of students more competence in format specific browsing with mean score 0.70, standard deviation 0.39 and rank III. whereas 70% of students were having basic competency in downloading files with mean score of 0.83, standard deviation 0.35 and rank IV, while 56.3 per cent have basic and 6.3 % of students were have intermediate competency to downloading PDF file with mean score 0.69, standard deviation 0.35 and rank IV. 55.0 per cent of students were having basic competency in downloading audio and video files with mean score of 0.60, standard deviation 0.22 and rank V.

In case of competency in world wide web lot of students were having basic competency level in downloading free software and some of them were having more competence in downloading audio and video files as well as PDF file also.

IV. CONCLUSION

The use information is wide and multifarious. ICT in this study was confounded to the application of computer and internet. The application of computer included Microsoft word, power point slides, Microsoft Excel while the application of internet included e-mail, www, and blog and face book also.

Most of the students were having basic and intermediate competency in the use of ICT and some students were also having advance skill in this field but according to research basic and intermediate competency towards information communication technology is enough to increase the knowledge level of student in each and every field of study. Finding reveals that most of the respondents in the study area were more competent at basic and intermediate level of competency in information communication technology in MS office Word.

V. RECOMMENDATIONS AND SUGGESTIONS

1. The power supply is one of the major problems. The institution should buy generators in case of blackouts. Currently students suffer when there is blackout and school work becomes stand-still as they cannot use these ICT facilities. So Computer laboratories could be increased on campus and that could be done with private business people.

2. Efficiency of manpower for maintenance of computers and to provide technical support in information communication technology to students must be increased.

3. Due to highly expensive technology, students were not able to purchase personal computer / laptop but the current government has been also emphasizing on online study by providing tablet to each enrolled students at free of cost under the UP free tablet scheme 2021. Now a day lots of computer centers are providing opportunity to learn computer in the form of package of CCC , DOEACC 'O' level etc. it may be helpful to further improving computer proficiency as well as help students in securing jobs also because most of the job recruitments have required computer knowledge preference with academic qualification.

4. The use of ICT at colleges by students can be a reflection of the skills they possess in ICT use or the use of ICT applications. Alternatively, it can either reveal how far teachers promote the use of ICT to students, or indeed to what extent ICT facilities are available within colleges in terms of devices, applications, laboratories, etc.

5. There is needed to take a holistic approach towards development of ICT in education plan and policies.

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