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ICT usage among distance learners and their academic performance: A Multidisciplinary Study

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Abstract: Education is very important for the progress of individual and society. It is through education that man develops his thinking, intelligence, aptitude, good values and attitudes. In to day world the role of information and communication technology (ICT) in the education sector plays an important role especially in the process of empowering the technology in to educational activities, with passage of time our education system gives more emphasis in enhancing the technology used for distance learner. The chief aim of the present studies was to studies the ICT usage among distance learner. In the present study descriptive method of research and random sampling technique was applied, 100 student of distance education were selected. In order to collect required information self constructed test was used. It is concluded that science post graduate distance learner are using ICT more in comparison to graduate. It is concluded that management post graduate distance learner are using ICT more in comparison to graduate. It is concluded that humanities post graduate distance learner are using ICT more in comparison to graduate.

Key words: ICT, academic performance, distance education.

Theoretical Orientation of Problem

The traditional delivery system for higher education had been usual classroom setting with a teacher giving a lecture and students listening and writing. Over the years, 21st century the innovations in educational delivery mechanism have challenged this paradigm. Advancing in information technology is enabling little word educational delivery method such as Distance Learning to gain new life. Here all possible ICT and media print audio, video, radio, computer and multimedia brought into the systems to bridge the gap between the teachers and students. As we live in the age of information technology, there is knowledge explosion. The students who due to some reasons not able to complete their education formally, they get educational centre. By this they improve their skills and knowledge and able to get better carrier options. ICT helps the distant learners to develop and adopt intellectual learning environment. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically. Distant learners get information at anytime and anywhere through ICT. It encourages them for independent and active learning. It develops self responsibility for learning. It helps to gain literacy skills, confidence and enthusiasm.ICT makes learning interesting and effective. Distant learners busy in other works so they get subject related materials through internet, e-mail etc. In this way they save time and space of learning. ICT provides e-learning, online learning, virtual class room, that are useful for distant learners. They learn by their own pace. Kumar (2001), proceeding of world academy of science of technology and engineering. It is found that there is importance of ICT for humanities distance learners for supporting educational improvement and reform. It gives great opportunities and challenges in field of education.

Guha (2001) investigated the critical review of work done on the use of computer s an instructional tool for distance learners. Dominguez (2001) found that there is a great effect on learners perception about distance education and revealed a positive relationship between education and professional delivery of distance education.. It provide a critique of continuing professional development for using ICT in teaching and learning that does not entail examining the impact of environmental changes upon the assumptions, goals, and strategies which underlie and shape an organization's educational practices. Schrum (2002) pointed out that distance education provides effective learning environment to students and who look for the real education which is active, productive and interactive. Meyer (2002) found that in order to help lighten the demands of travel for faculty and students, institutions began utilizing available technologies, such as audio connections, video tapes, and television to perform distance education efforts. Karchmer (2003) found how the internet has or has not changed the way they taught in their classrooms.

Rajesh (2003) found that every Distance Teaching Institution is fast adapting itself to technology based teaching and learning in order to keep abreast of the changes taking place in educational technology. ICTs can transmit information to the students through a wide variety of media in a way that promotes informed discussion as well as provides guidance. Covington (2004) conducted a study to assess students attitude concerning online and computer medicated distance education and professional communication. Stella (2005) found that distance learners use computer assisted instructions in their learning. Deniz (2005) found that male distance learners have more positive attitude about ICT than female distance learners. Salih (2006) examined the problems associated with Information and Communication Technology (ICT) adaptability in developing countries in the context of distance education. He said that the communication technologies had come to play a vibrant role in democratizing education not only in the developed but also in the developing countries. The problems associated with the growth of ICT that had been focused upon in his study were the political, economic, cultural and technological factors. Golightly (2008) found that multimedia technology in teaching is more effective as compared to the traditional print based teaching methods. The overall information is collected with experimental method and concluded that the interactive multimedia has full effectiveness on the academic achievement of students. Bernadette Robinson (2008) found that use of distance education and Information and Communication Technologies (ICT) to increase rural teachers' learning opportunities in rural areas and as a means for policy-makers and planners to support teachers' professional development in ways than empower teachers.

Bermon (2008) found that use of ICT serving the distance education needs of rural populations, and concludes that in traditional media, including radio and TV, must play an important continuing role to ensure that education is accessible to the widest possible range of students. Refeedali (2009) found that there are no significant differences indicate that female distance education learner participate equally with their male counterparts in the utilization of computer technology. 2010) found that utilization of technology was higher in urban areas as compares to rural areas.Das (2012) found that open and distance learning enabled people to develop different levels of proficiency in various fields. ICT in distance learning has not only made teaching-learning an interesting activity, but has also helped in inculcating a practical mindset among the learners. It studied that ICT-enabled learning as a surrogate system of the conventional ODL has released a lot of avenues for the people.

Significance of the problem

The extraordinary advances in the field of technology have greater impact in the field of education. It is creating immense opportunities in the field of education and has profound effect on the way distance learners learn through ICT. ICT in distance education is a deliberate, novel and specific change, which is thought to be more officious in accomplishing new goals of educational system. ICT is useful in distance learners. With different courses learners use ICT for fulfilling their educational needs. Graduate and post graduate distance learners use ICT for their study. Rural and urban distance learners use ICT for their learning. Male and female both use ICT for their effective learning. Now a day's number of distance education centers is opening. There are many distance learners who are studying in distance education. ICT is very important aspects in these days and distance education is also in trend. There is also need to show that education should be seen as using technology not only as an end in itself but as a means to promote creativity, empowerment and equality and produce efficient learners and problem solvers. No more research work done on ICT usage distance learners. Distance education students have learnt so many useful things by the use of ICT like computers, radio; on line conferencing etc. this study was undertaken with a view to study the academic performance of distance learners. Distance education students have taken help from internet, computers to fulfill their educational needs. Educational programs are telecasted on television like Gyan Darshan, Gyan Vani etc. these proved beneficial for distance learners.ICT is the part of education in contemporary era. Distance learners take help from computer, internet, radio etc. for understanding the concept. Male, female, urban, rural every one take help from new technologies.

Statement of the problem

The present study was an attempt to examine the usage of ICT usage among distance learners and their academic performance: multidisciplinary study.

Operational definitions

ICT (Information and Communication Technology-or Technologies)

ICT is an umbrella term that includes any communication device or application encompassing: radio, television, cellular phones, computer network, hardware, software, satellite system as well as various services and application associated with them, such as video conferencing and distance learning.

Academic performance

Academic performance refers to how students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. Academic performance can be defined as excellence in all academic disciplines in class as well as extracurricular activities. It includes excellence in sporting, behavior, confidence, communications skills, punctuality, assertiveness, arts, culture, and the like. Academic achievement of a pupil refers to the knowledge obtained and skilled developed in the academic subjects, means success gained by students in particular subjects and area of courses.

Multi-disciplinary

Multidisciplinary studies are required when a field of study, a topic or a problem of research crosses the borders of disciplines, university faculties, schools or departments and even school subjects, as traditionally subjects indicate independent bodies of knowledge. Therefore multidisciplinary or cross-disciplinary is just a tag to make sure that this is a kind of integration and not merging of several fields of interest in the scenery of organized knowledge representations. It could be regarded as a learning project after the course materials/lecture notes have been written up and presented. The definition of multidisciplinary is something that combines several fields of study or academic interests.

Objectives of the study

1. To study the usage of ICT among distance learners.
2. To study the academic performance of distance learners.
3. To study the relationship of ICT usage and academic performance among distance learners
4. To study the usage of ICT among humanities graduate and post graduate distance learners.
5. To study the usage of ICT among management graduate and post graduate distance learners.

Hypothesis of the study

1. There will be no significant difference between ICT usage and academic performance of science distance learners.
2. There will be no significant difference between ICT usage and academic performance of humanities graduate and post graduate distance learners.
3. There will be no significant difference between ICT usage and academic performance of management graduate and post graduate distance learners.
4. There will be no significant difference between ICT usage and academic performance of rural and urban distance learners.
5. There will be no significant difference between ICT usage and academic performance of male and female distance learners.

Delimitation of the study

This study was delimited to Kapurthala district and distance learning study centers only.

Research method

The present study was primarily of descriptive in nature. The sample of present study was collected 100 distance learners. The investigator had consulted distance education centers for seeking the permission of conducting the research.

Tool used

A self constructed scale on ICT usage distance learners were used in the study.

Statistical technique used

Descriptive study tools namely Mean, and S.D was calculated. t-ratio was calculated to know the significance of difference in means scores.

Analysis, interpretation, conclusions and recommendations

Table1: Showing the mean scores of ICT usage among rural and urban distance learners.

Sr. no	Category	N	M	S.D	Df	t-ratio	Remarks
1	**Urban**	50	157.38	12.14	98	1.16	Insignificant
2	**Rural**	50	154.58	12.09			

Table1 shows that the mean scores and SD of distance learners of urban and rural areas The t-ratio is 1.16 which is not significant at both levels of confidence i.e. 0.05 and 0.01 at df = 98. T tabulated at 0.05 level of confidence= 1.98 and t-tabulated at 0.01 level of confidence=2.63 thus there exists no significant difference between ICT usage and academic performance among rural and urban distance learners. Hence hypothesis is accepted.

Table 2: Showing the mean scores of ICT usage among male and female distance learners.

Sr. No	Category	N	M	S.D	Df	t-ratio	Remarks
1	**Male**	50	154.88	12.39	98	0.91	Insignificant
2	**Female**	50	157.1	11.89			

The mean scores and SD of distance learners of male and female areas is shown above. The t-ratio is 0.91 which is not significant at both levels of confidence i.e. 0.05 and 0.01 at df = 98. T-tabulated at 0.05 level of confidence=1.98 and t-tabulated at 0.01 level of confidence = 2.63. Thus there exists significant difference between ICT usage and academic performance of male and female distance learners. Hence hypothesis is rejected

Table 3: Showing the mean scores of ICT usage among humanities graduate and post graduate distance learners.

Sr. no	Category	N	M	S.D	df	t-ratio	Remarks
1	**Humanities graduate**	15	158.6	7.9	28	1.14	Insignificant
2	**Humanities post graduate**	15	162.33	9.82			

The mean scores and SD of distance learners of humanities graduate and post graduate are shown above .The t-ratio is 1.14 which is not significant at both levels of confidence i.e. 0.05 and 0.01 at df = 28 .t- tabulated at 0.05 level of confidence =2.05 and t-tabulated at 0.01 level of confidence=2.76, thus there exists significant difference between ICT usage and academic performance of humanities graduate and post graduate distance learners. Hence hypothesis is rejected.

Table 4: Showing the mean scores among ICT usage science graduate and post graduate distance learners

Sr. no	Category	N	M	S.D	df	t-ratio	Remarks
1	**science graduate**	28	149.96	12.83	54	1.76	Insignificant
2	**science post graduate**	28	156.14	13.48			

The mean scores and SD of distance learners of science graduate and post graduate are shown above The t-ratio is 1.76 which is not significant at both levels of confidence i.e. 0.05 and 0.01 at df = 54. t- tabulated at 0.05 level of confidence =2.00 and t-tabulated at 0.01 level of confidence=2.66, thus there exists significant difference between ICT usage and academic performance of science graduate and post graduate distance learners. Hence hypothesis is rejected.

Table 5: Showing the mean scores among ICT usage management graduate and post graduate distance learners.

Sr. No	Category	N	M	S.D	df	t-ratio	Remarks
1	**Management graduate**	10	156.1	7.56	18	0.16	Insignificant
2	**Management post graduate**	10	156.8	10.83			

The mean scores and SD of distance learners of management graduate and post graduate are shown above. The t-ratio is 0.16 which is not significant at both levels of confidence i.e. 0.05 and 0.01 at df = 18. t- tabulated at 0.05 level of confidence =2.10 and t-tabulated at 0.01 level of confidence=2.88,thus there exists significant difference between ICT usage and academic performance of management graduate and post graduate distance learners. Hence hypothesis is rejected.

Suggestions

Research is an unending process and every research work provides clue for further investigation. The success in the solution of problems tends to indicate other unsolved problems needing a scientific probing and also every investigator after completing his/her own piece of research may feel inspired to do more research. The research should not be restricted just to distance learners; it should be done on regular students. The sample size should be larger for proper and appropriate result. This study was confined to distance learners of Kapurthala district. Similar study can be undertaken in covering more districts of Punjab or other states of India.

Limitations

The present study has conducted on distance learners only. The study is only restricted to Kapurthala district in Punjab only. The size of sample is not large.

Recommendations

This study may prove beneficial in suggesting regular students for using ICT. The study could have been extended to large area beyond Kapurthala district. It could further be studied in relation to various other variables like personality, self directed etc. More distance education centers should be taken for the validation of ICT.

Conclusion

From the above discussion it is concluded that urban area distance learners are using ICT in their learning than rural area distance learners. This may be due to the facts that in urban areas people are more aware about latest technologies, new ways of doing things and also have a broader outlook about study. The mean scores for urban areas distance learner is greater than rural area distance learner. Female distance learners are using ICT more in comparison to male. Similarly postgraduate humanities and management distance learners use more ICT than graduate humanities and management distance learners.

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