International Journal of Scientific Research in Computer Science, Engineering and Information Technology
© 2017 IJSRCSEIT | Volume 2 | Issue 5 | ISSN : 2456-3307

The Impact of New Information and Communication Technology (ICT) Module as Learning Tool in Higher Education

Basudeb Mondal*

Assistant Teacher, Bajitpur Primary School, Bajitpur, Purapara, Murshidabad, West Bengal, India

ABSTRACT

The technology is going speedily in recent times than our ability hence we need to adapt and take up the new way of technology to promote to take out information in our daily matters to save our money, energy and the huge amount of time. Major developments in information and communication technology in current decades have fetched in new dimensions in the fields of transmission of data, the behaviour of Information and Communication Technology (ICT) as main tools for monitoring and management; also to right away assistance in increasing the quality of teaching and learning. With increased through an ever-increasing numbers of students aspirant for higher education, concernments of justice in education and issues of exorcism have also begun to attract attention. The main objectives of this study are the effectiveness of ICT on achievement in higher education and to what extent the ICT may help the student to achieve their goal. This is the completely experimental study about the application of ICT in higher education. ICT enabled teaching learning encloses a variety of techniques, tools, content, and resources aimed at improving the quality and efficiency of the teaching-learning process. It is terminated that ICT is very much feasible Tools for useful pedagogy and exact understanding of the subject content. It gives more advantage to the student to modify their concept through ICT use in the classroom. Availability of an extensive range of such teaching-learning materials wills catalyzes the transformation of classrooms into ICT Enabled classrooms. The dispensation of quality education is the fundamental right of all the students in India.

Keywords : Information and communication technology (ICT), Catalyzes, encompasses achievement.

I. INTRODUCTION

Information and Communication Technologies are associated with forums, services, tools, technologies, information, knowledge, etc. which may be applied for achieving goals of teaching-learning pedagogy, also enhancing performance. As Digital India is rolled out completely, and more than experiments are taken on hand, it is equally possible that new innovative and imaginative conducts of information technology have come to the in front, to be harnessed appropriately. Education is equally significant as food, cloth, and shelter. Without which man will be restricted to the watertight compartment of ignorance. In fact, education opens the window for the human beings towards a beautiful world where a polished existence is ensured. The fact changing the face of the world too needs human beings to update him/her and rise up to the need of the hour to furnish him/her as par with the counterpart in the other part of the world.

In the period of science and technology and its influence on the higher education, system is immense. The intention of education is to not only inform the latest knowledge and skill to the distinct but also speed up the progress, so that the student may cope up well the coming society. Such position necessitates, teacher to take up optimum confirmation of Information and Communication Technology (ICT) to facilitate him/her learner in the process of knowledge construction and speed up the progress. Therefore, it is realized that the education of any country must take up the help of the modern technology to enhance its quality as well as the quantity. In fact, to make education more significant and expansive for the individual learner, the Information and Communication Technology (ICT) is playing a vital role.

Following sustained initiatives expansion over much decennial, the country may nowadays be proud of possibly one of the largest ever more higher education systems. With increased through, and ever more increasing numbers of students aspiring for higher education, concernment of equity in education and issues of quality have also begun to attract attention. The challenge of developing alternative modes of education, continuing education, teacher capacity building, and information systems for efficient management of the higher education system is being addressed. With Information and Communication technologies becoming more than accessible, probable and addicted, the expectation of leveraging ICT for education is suitable increasingly possible. ICT enabled teaching learning encompasses a variety of techniques, tools, content, and resources purposed at progressing the quality and efficiency of the teaching-learning process. Ranging from projecting media to support a lesson, to multimedia self-learning modules, to simulations of virtual learning environments, there are a diversity of options available to the teacher to improve different ICT tools for effective pedagogy. Every such device or technique also involves changes in the classroom environment and its bearing on effectiveness. Appearance of a comprehensive range of such teaching-learning materials will catalyze the transformation of classrooms into ICT Enabled classrooms. The rule of quality education is the fundamental right of all the students in India. With the help of ICT integrated education, the student's performance is improved. The students perform deliciously by the teaching of ICT. By virtue of this importance of ICT, the investigator wanted to take up the study entitled "Effectiveness of ICT on teaching at higher education stage".

II. PURPOSE OF THE STUDY

The study searched to investigate the effectiveness of Information and Communication Technology (ICT) as learning tool in Higher education.

III. OBJECTIVES OF THE STUDY

The study was carried with the following objectives:
i) To study the effect of ICT-used teaching on the students' achievement in higher Education.
ii) To study the effect of traditional teaching on the students' achievement in higher Education.
iii) To study the comparative effect of ICT-used teaching and traditional teaching on the Students' achievement in higher education.
iv) Elaboration reasoning and critical thinking abilities, also improve proper study habits.

IV. LITERATURE REVIEW

The impact of ICT and the connected synergy effects and increased proficiency "have affected the numbers and structure of the work-force and significantly qualified working conditions and occupational patterns. This is relatively a new development touching the situation of workers, especially in the current years. In the medium period, hardly any jobs will stand unaffected by it" by Federal Ministry of Labour and Social Affairs: 1999 [7]. The effects of ICT in all the fields of education increases challenges for policymakers, administrators, teachers, and students. ICT has two main qualities. First, it confirmations effective learning experiences and second, it confirmations entrances to the different range of media and learning chances. The contravention is that developing worthy active learning experience is more valuable. The principal object is to devote teacher's time in inventing learning activities that genuinely increase the productivity of learners explained by Daniel, John S. 2001[2]. In the year 2004, Bottino, Rosa Maria discussed few main characteristics of the evolution, which is founded on ICT alike technological evolution, changed cognitive and pedagogical frameworks, changed role assigned to ICT based systems in education. Transmission model, learner model, and participative model are appeared for necessary issues in ICT based learning systems. Different tools of ICT based should confirmation to the students for solving their problems and give them with the opportunity to carry out open-ended problems [5]. In 2013, Milenge Mbodila, Telisa Jones, Kikunga Muhandji stated that the integration of ICT in education is an extension method of implementing technology to the academic curriculum to enhance the method of teaching and learning. Thinking, ICT integration is not an easy task. There are several challenges to integrating ICTs use in education alike Environmental challenges, Cultural challenges, and Educational challenges. In this way, policymakers and teachers are essential to recognize how technology and the education system interact with each other. Hence, there is a requirement of government authority

sustenance to making the interaction of ICT in education a successful development [3]. In the year 2016, Dr. S. Viswanadha Raju, Dr.M. S. V Sivarama Bhadri Raju, Dr. G. Abbaiah, and Dr. Madhavi G. explained that the virtue of education which authorizations the society may be able to achieve through ICT in teaching learning process to develop learners' level of skill. Besides these results may get into learner execution and performance. Quality can be confirmed whether institutions can face competition to attract brilliant students, proposal different choices and innovative subject combinations [4].

V. HYPOTHESES

Keeping in mind the need, aim, and objectives of the problem in mind the following hypotheses were formulated to facilitate study.

H1- There exists the significant difference between the mean achievement scores of experimental group and control group.

H0- There exists no significant difference between the achievements.

VI. RESEARCH METHODOLOGY:-

Methods to conduct a research study vary in their quality and intention. Choice of the methods of research is determined by the nature of the problem. The present study is an attempt to study the effect of ICT on the students' academic achievements. It is obvious that the effect of ICT cannot be studied through the survey or historical method. It certainly an experimental setting. Keeping this in mind, the investigator used pre-test, the post-test experimental method to conduct this study.

A design is used to structure the research, to show how all the major parts of the research projects the sample or groups, measures, treatments or programmes and method of assignments work together to try to address the central research question. Winer (1971) comparison the design of an experimentation to an architect's plan for the structure of a building. The designer of experimentations performs a role like to that of the architect. The prospective owner of a building gives his basic requirements to the architect, who then exercising his ingeniousness prepares a plan or a blueprint outlining the final shape of the structure. Likewise, the designer of the experiment has to do the planning of the experiment so that the experiment on completion implements the objectives of the research. In the current study, students in the ICT group were instruct applying a power point programme saved to CD-ROM. The power point offering included animated pictures, video clips. Students in the traditionary group were taught using a chalkboard, textbooks, models, and charts. Experimental classes housed a ceiling-mounted LCD projector that was linked to a computer and classroom projector prominent onto an interactive whiteboard. The power point presentation was presented on a ceiling- mounted LCD projector. The presentation elaborate each lesson by providing extra examples and examples from the homework. Students were efficient to solve example problems and then instantly look the answer on a big screen in the classroom. This presented them early feedback. In the present study, pre-test post-test control group quasi-experimental, the design was employed with a purposive sample in the form of intact sections of higher secondary education. The study included a control group (50 students) and an experimental group (50 students). The experimental group was taught through ICT used teaching and the control group through the traditional method. The intact sections were equated on intelligence and socio-economic status.

VII. FINDINGS OF THE STUDY

(1) The results arrived during these studies showing that the post-test achievement means scores of experimental group and control group's shows differences. This implies that the students who were taught using ICT method of teaching show significant improvement in their achievement in Higher education than the students who received instruction through the traditional method. It suggests that ICT used teaching method contributes to proposing the achievement of students in Higher education.

(2) An essential dissimilation has been seen between the mean achievement of pre-test scores and the post-test scores of control group related to their academic achievement.

(3) An essential dissimilation has been seen between the mean achievement of pre-test scores and the post-test scores of experiment group related to their academic achievement.

(4) The group of students taught through ICT-used method shows significantly higher means the gain in

achievement than the group of students taught through traditional.

VIII. CONCLUSION

The study provides potential inputs for Higher education. Given the present expensive use of ICT at all levels and for all subjects, it is imperative that pre-service teachers should learn the new technology. Besides pre-service training of teachers in the making, in-service training may also be given to the existing teachers to refurbish their discernment for teaching that is teaching successfully and meaningfully. ICT is very effective Tools for a proper understanding of the subject content. It gives more than the scope to the student to modify their opinion through ICT use in the classroom. Availability of an extensive range of such teaching-learning materials wills catalysis transformation of classrooms into ICT Enabled classrooms. The provision of quality education is the fundamental right of all the students in India.

IX. RECOMMENDATIONS

ICT should be created an integral portion of school education where it is used as an aid to teachers and students

- The study could be replicated to look for how ICT affects the students of different abilities on cognitive, emotional and motivational dimensions.
- There is the necessity to compare ICT-used teaching method with other methods of instructions at different grade levels.
- The study could be replicated in a large sample for validation and for a longer duration to examine the effects on non-cognitive variable like social skills or some personality variables which take more time to bring about a change.
- There is the necessity to study the integrated effect of the ICT-used method with other institutional treatments.
- Research is needed to study the effect of ICT on special groups of children Such as gifted.

ICT can no longer be treated as a school subject; it has to become a way of the learning process. This field is to be explored seriously and rolled out, in an appropriate manner, synchronizing with the Digital India Programme; such an approach will yield major dividends in a relatively short time. The learning disabled and other mildly handicapped students. Power point programme can be developed for other classes and research may be conducted to study the impact of Power Point programme on students' learning in various subjects/levels, i.e.; for different subjects and for various levels as well, as also to determine the extent to which it could be used within the existing conditions and parameters in schools and other Higher educational institutions. Through the observation, it is found that ICT if very effective aids for teaching in the classroom and remedial teaching and is very useful to teach teacher trainees in teacher training institute. It is appropriate that the national level agency should monitor this ICT application and monitor different steps regarding the application of ICT in education all over the India.

X. REFERENCES

[1]. Abtahi, M. S., Hamidi, N. (2011). The Importance of ICT in Educational System and Curriculum. In INTED 2011 Proceedings (pp. 2853-2865). IATED.

[2]. Daniel, J. S. (2001). Using ICT for quality teaching, learning and effective management. UNESCO Asia and Pacific Regional Bureau for Education.

[3]. Mbodila, Munienge, Telisa Jones, and Kikunga Muhandji. "Integration of ICT in education: Key challenges." International Journal of Emerging Technology and Advanced Engineering 3.11 (2013): 515-520.

[4]. Raju, S. V., Raju, M. B., Abbaiah, G., & Gudavalli, M. (2016, February). Role of ICT in Outcome Based Education. In Advanced Computing (IACC), 2016 IEEE 6th International Conference on (pp. 815-819). IEEE

[5]. Bottino, R. M. (2004). The evolution of ICT-based learning environments: which perspectives for the school of the future? British Journal of Educational Technology, 35(5), 553-567.

[6]. Heap, N. W., Kear, K. L., & Bissell, C. C. (2004). An overview of ICT-based assessment for engineering education. European Journal of Engineering Education, 29(2), pp. 241-250.

[7]. Stoner-Weiss, K. (1999). Central weakness and provincial autonomy: Observations on the devolution process in Russia. Post-Soviet Affairs, 15(1), pp. 87-106.

[8]. http://www.ksbe.edu/_assets/spi/pdfs/21_century_skills_full.pdf.

[9]. Ainsworth, S.E., Bobby, P.A., & Wood, D.J. (1997) 'Information Technology and Multiple Representations: New Opportunities New

Problems,' Journal of Informational Technology for Teacher Education, 6pp93-106.
[10]. Yuen, A.H.K., Law, N., & Wong, K.C. (2003). "ICT Implementation and School Leadership: Case Studies of ICT Integration in Teaching and Learning,"Journal of Educational Administration, 41(2), 2003, pp. 161.
[11]. Alexander, M.P. (1993). The effective use of computers and graphing calculators in college algebra. Dissertation Abstracts International, 54/06-A (Order No. AAD93-28010).
[12]. Apperson, J.M., Laws, E.L., & Scepansky, J.A. (2006). The impact of presentation graphics on students' experience in the classroom. Computers & Education, 47, pp.116-126.
[13]. Bain, A., Houghton, S., Sah, F.B., & Carroll, A. (1992, summer). An evaluation of the application of interactive video for teaching problem-solving to early adolescents. Journal of Computer-Based Instruction, 19 (3), pp.92-99.
[14]. Bauer, J., Kenton, J., (2005). Technology integration in the schools: Why it isn't happening. Journal of Technology & Teacher Education, 13, pp.519-526.
[15]. Becker, H. (2000). Findings from the Teaching, learning and computing survey: Is Larry Cuban right? Report from a National Study. Irvine, CA: Center for Research on Information Technology and Organizations. http:// www.crito.uci.edu/tlc/.
[16]. Betts, S. (2003). Does the use of ICT affect quality in learning science at Key Stage3? Studies in Teaching and Learning, pp. 9-17.
[17]. Bhat, V.D. (1982). A Study of the Effect of Simulation on Performance of Teacher Trainees in Educational Psychology, Ph.D. Edu., MSU.
[18]. Birmingham, P. (2001). "Journal of Information Technology for Teacher Education", 10 (3), pp. 241- 252.
[19]. Bull, Glen; Bull, Gina; Kajder, Sara, (2003). "Writing with Weblogs: Reinventing student journals," Learning & Leading with Technology. ISTE (International Society for Technology in Education) Vol. 31(1).
[20]. Dawes, l., Mercer, N., & Wegerif, R. R. R. (2000). Extending talking and reading skills using ICT. In Leak and Meadows (Eds.), J.Teaching and Learning with ICT in the primary school. London: Rout ledge
[21]. Gilmore, A. M. (1995). Turning teachers on to computers: evaluation of a teacher development program. Journal of Research on Computing in Education, 27(3), pp. 251–269.
[22]. Goodison, T. A. (2002). Learning with ICT at primary level: Pupils' perceptions. Journal of Computer Assisted Learning, 18 (3), pp.282-295.
[23]. Karchmer, R. (2001). The journey ahead: thirteen teachers report how the internet influences literacy and literacy instruction in their K-12 classrooms. Reading Research Quarterly, 36 (4), pp. 442-466.
[24]. Keller, F.S. (1968). Good-bye teacher. Journal of Applied Behavior Analysis, 1(1), pp.79-89.
[25]. Hannafin, R.D., & S. Savenye. (1993), "Technology in the Classroom: The Teacher's New Role and Resistance to It, in Educational Technology, 33 (6), pp.26-31.
[26]. Hawkins, R. (2002) "Ten Lessons for ICT and Education in the Developing World", available from http://www.cid.harvard.edu/cr/pdf/gitrr2002_ch04.pdf; accessed 7 August 2002, pp. 40.