

TEACHER ACCEPTANCE AND INSTITUTIONAL FACTORS OF ICT IN SCHOOL EDUCATION FOR BETER LEARNING BY STUDENTS OF DELHI & NCR

SONIKA MARWAHA

Research Scholar, Mewar University Chittorgarh, Rajasthan, India

ABSTRACT

The focus of this paper is to explore the ICT factors in school education, which have impact on implementation as well as the use of ICT in school education. Research objectives were framed and a theoretical model was developed that explains the factors, which may affect the implementation of ICT in Education. Working hypotheses were developed to evaluate the interrelationship between affecting factors and success. Empirical data were collected through a survey questionnaire from educators like School Teachers, principals and other supportive school staff, involved in education. The data gathered was analysed with frequency distribution of the responses, descriptive analysis and analysis of the mean score. The finding of the study highlights the importance and relationship gap between teachers' acceptance and available institutional factors for the progressive implementation of ICT techniques in schools, for better outcome in the student learning process.

KEYWORDS: ICT, Education, ICT Implementation, ICT Affecting Factors

INTRODUCTION

Thomas Edison and Albert Einstein become great scientists, but they never get a chance for any good schooling system. However, average students are likely to fall below in the absence of a systemic support from schools with the added flavor of ICT. Information and Communication Technology is increasingly holding pervasive role and presence in the current educational world, as it continues to improve all aspects of our lives. The study of implementing technology and its techniques in education was started in the early 1970s in many countries around the globe. There were several studies and steps, which were conducted for the improvement in teaching methodology. The rapid evolution of integrating ICT started in the late 1990s in India with the interference of Ministry of education and UNICEF with their pre-defined quality standards.

As per preliminary studies and investigations conducted by Govt. & Private school teachers and principals in Delhi and NCR, we found that ICT was perceived, as an important tool to the educators for improving performance, collaboration, learning experience and learning outcomes. However, Teachers as implementer of ICT reported many challenges, affecting the proper implementation of ICT and desired learning environment - like lack of space, resources, maintenance, a lack of ICT skills, less focus on ICT training for schools and a lack of clear ICT policies followed by the schools. These obstacles have turned into the barriers by ignoring positive factors to aid in the success of ICT implementation. In a real scenario, it is very important to study factors related to Teacher Acceptance" and "Institutional factors" in the details, and while the integration of ICT to learning environment in school & other educational institutions

Institutional Factors define a clear vision and clear policies defined by the school and its orientations & culture to motivate teachers to adopt innovative teaching practices through ICT. Schools are also required to provide a platform for the teachers to learn, adapt and deliver a better learning platform for students. Institutional factors always help to improve teachers' existing attributes and learning infrastructure

Teachers Factor is also considered as a major predictor for the use of new technology in current education system. Teachers are the front hand or primary source for the implementation of ICT, and play a vital role to enforce ICT tools and techniques to prepare and create new learning environment and Next generation education system. ICT enabled education system provides interactive learning for learners, exposed directive focus on the topic, teacher's control of the delivery of lecture and generates student's interest to participate with extra focus. Teaching methodology and techniques to deliver education, defines the scale of learning outcome for every student showcasing importance of teacher's acceptance factors to enhance the teaching program, with enriched learning with quality knowledge sharing experience to students.

OBJECTIVES AND METHODOLOGY

Very few studies have been performed to investigate and understand the issue of teachers' acceptance and institution factors in improving students' learning in ICT school education, and therefore, it formed rationale for the researcher to investigate and make useful contribution. The objectives formulated on these lines to study the Teacher acceptance in Delhi schools affecting the implementation of ICT in Education and to Study the Institutional factor available in Delhi to teachers affecting implementation of ICT in Education.

Descriptive research design was adopted, and both primary and secondary data were used. Teachers, educators and principals constitute the population. A questionnaire based survey was conducted to gather primary data, at schools in Delhi and NCR of India. The respondents were teachers, educators, principals. The questionnaire was divided in two parts - in the first part demographic details of the respondents and the second part was filled with ICT factors, using LIKERT scale (rating 1-6). The following working hypotheses were formulated and tested:

H₀: "There exists no significant difference in the use of ICT between teachers of different demographic profiles".

H₀:" There exist no significant difference between Teacher acceptance in Delhi schools affecting the implementation of ICT in Education.

The study used perceptual data provided by the respondents i.e. School Teachers, Principals and other supportive school staff involved in Education to test the theoretical model. As in many social sciences research, some limitations were encountered. However, the inability to measure clear performance was overcome using multiple methods to collect data in future studies.

ANALYSIS AND DISCUSSION

A. Institutional Factors

In studies conducted by Zhu and colleagues (e.g., Zhu and Engels 2013), it was found that school culture is correlated with the use of innovative teaching practices. So, besides needing-support, the school's orientation towards innovation is possibly an important factor interfering with teachers' motivation and teaching practices. Institutional factors

always help to improve teachers' existing attributes. In simple words every organization requires to make regular efforts in order to increase awareness about ICT. The major challenge for adoption of ICT is Capital cost and recurring maintenance cost for computers, training courses for teachers and students to purchase content delivery hardware for ICT, course development cost, technological expenses and etc. According to UNESCO (2002a), "Capital investments usually substitute for high recurrent costs, making economies of scale a decisive factor. Large distance-learning programmers may produce graduates at considerably lower costs than conventional institutions (p. 12). UNESCO (Ibid) also identified key factors affecting the cost effectiveness of distance learning systems.

In the present study, the primary data were collected from school teachers & principles based in Delhi & NCR, with the help of a self - design questionnaire validated from the practitioner and academic experts as well as after during pilot survey. The frequency distribution of the responses is estimated and results are shown in below table.

Table 1: Frequency Distribution of the Statement Measuring Institutional Factors

Statement	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
ICT Being a part of the Organization learning work environment	6 (2%)	49 (16.3%)	59 (19.7%)	75 (25%)	91 (30.3%)	20 (6.7%)
Use of ICT is promoted by the educational institute	2 (.7%)	55 (18.3%)	63 (21.0%)	100 (33.3%)	65 (21.7%)	15 (5%)
Education Institute promotes ICT and ready bear cost or finance to add ICT facilities	6 (2%)	48 (16%)	46 (15.3%)	95 (31.7%)	75 (25%)	30 (10%)
Is it Mandatory or any Institutional requirements for students and teachers to take the basic technological course	24 (8%)	67 (22.3%)	41 (13.7%)	62 (20.7%)	84 (28%)	22 (7.3%)
Educational Institute has a Web portal for the course	2 (.7%)	48 (16%)	68 (22.7%)	79 (26.3%)	73 (24.3%)	30 (10%)
ICT integration into the classroom to be an Institutional policy	1 (.3%)	64 (21.3%)	68 (22.7%)	87(29%)	56(18.7%)	24 (8%)
Intranet site of the institute is available for internal communication	11 (3.7%)	45(15%)	66 (22%)	59 (19.7%)	80 (26.7%)	39 (13%)
Education sectors have policies to evaluate the effectiveness of ICT	16 (5.3%)	59 (19.7%)	39 (13%)	94 (31.3%)	72 (24%)	20 (6.7%)
Educational Institutes make regular efforts in order to increase awareness about ICT	5 (1.7%)	37 (12.3%)	84 (28%)	87 (29%)	58 (19.3%)	29 (9.7)

Source: primary data.

B. Teacher Factors

Achieving a meaningful use of technology in the field of educational development and innovation can be influenced by many factors; one of these factors is the teacher's positive attitude towards the use of technology in teaching and learning process through ICT.

Teachers' positive attitude is considered as a major predictor of the use of new technology in the educational setting (Albirini, 2006).

According to Kumar and Madhumalathi (2016), use of ICT in education depends largely on teachers and their level of the teaching process, and in utilizing ICT to provide learner-centered and interactive education. Therefore, the teacher's attitude whether positive or negative affects how they respond to and uses ICT in teaching learning process. Use of ICT techniques improves teacher's technical competencies by using various software in teaching methodology. Today, teachers are more enthusiastic to teach pupils by giving real life examples. If the teachers learn computer technical skills and techniques, then the students more easily catch up the concepts, and therefore, learning becomes more effective and time consuming. The basic preparatory processes of training should be handled in-house, through the regular system of teacher training. In house training provided by the institute for using ICT helps in scheduling training on a regular and continuous basis, and making it a part of the regular in-service teacher training process. This process, thus appropriately leverages the strong teacher training structures that are a part of the education department, in further building in-house capacities for institution helps in shaping new educational processes and curriculum using digital technologies. The real benefit of using in-house trainers to train teachers to integrate ICT to their teaching methodology. Teachers are the part of the education support system and, if they are encouraged to integrate and develop in-house development of ICT model would benefit to improve their abilities to contextualize the computer learning within the larger learning arena were much higher. Teachers should learn not only how to use technology in classroom activities, but also should learn from the student centered perspective, so that, teachers feel motivated while using technology in teaching and makes more confident while working with ICT. Teachers also plan and develop lessons that integrate technology in meaningful context. It saves a lot of time and help teachers in learning many new things.

In this research study, the data were collected from the school teachers in the selected schools in Delhi and NCR. The primary data was collected from the school teachers with the help of a self - design questionnaire validated from the practitioner and academic experts, as well as after conducting pilot survey. The frequency distribution of the responses was estimated and results are shown below.

Table 2: Frequency Distribution of the Statement Measuring Teacher Acceptance

Statement	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
You have a positive attitude towards the use of technology	5 (1.7%)	14 (4.7%)	70 (23.3%)	91 (30.3%)	2 (27.3%)	38 (12.7%)
Use of ICT techniques improves teacher's technical competencies	3 (1%)	43 (14.3%)	64 (21.3%)	85 (28.3%)	62 (20.7%)	43 (14.3%)
In-house training provided by the institute for using ICT is used in class for teaching	5 (1.7%)	38 (12.7%)	83 (27.7%)	79 (26.3%)	67 (22.3%)	28 (9.3%)
You feel motivated while using technology/ICT in teaching	10 (3.3%)	45 (15%)	70 (23.3%)	75 (25%)	65 (21.7%)	35 (11.7%)

Working with ICT and technology makes me more confident	11 (3.7%)	42 (14%)	71 (23.7%)	73 (24.3%)	63 (21%)	40 (13.3%)
I am positive and upgrading ICT skills	3 (1%)	28 (9.3%)	75 (25%)	71 (23.7%)	79 (26.3%)	44 (14.7%)
Teaching with ICT helps in saving time	19 (6.3%)	55 (18.3%)	64 (21.3%)	58 (19.3%)	64 (21.3%)	40 (13.3%)
ICT helps teachers in learning skills	15 (5%)	57 (19%)	61 (20.3%)	58 (19.3%)	71 (23.7%)	38 (12.7%)

Source: primary data

Findings from this paper can provide greater understanding of Implementation of ICT in Education and Impact of “Teacher Acceptance” and “Institutional” factors. This study will provide valuable insights to researchers, Educators and those School management staff, who is planning to implement an ICT based study model in their schools or Education system. The study integrates the affecting factors with impact on implementation, as well as the use of ICT in school education, that would improve the level of student learning.

CONCLUSIONS

The study defines; Institutional factor in the school's culture is correlated with innovative teaching for best learning results in Delhi and NCR. The frequency distribution displays that, around 61 percent of the school teachers agree that ICT being the part of organized work environment. However, 37 percent are disagreeing with the statement. In case of statements that use of ICT promoted from the organization around 59 percent of the school teachers agree and around 46 percent disagree. In case of statements that Institute promotes ICT and ready bear cost of finance to add ICT facilities, around 66 percent agree and around 33 percent disagree. Mandatory Institutional requirements for students and teachers to take basic technological courses indicate around 55 percent agree, and 43 percent disagree. In the statement ICT integration into classrooms to be an organizational policy around 55 percent agree and 40 percent disagree. In the case of statements that Intranet site of the institute is available for internal communication around 58 percent agree and 40 disagree. In the statement that the organization has policies to evaluate the effectiveness of ICT around 75 percent agree, and 37 percent disagree. In the case of statements that Organization makes regular efforts in order to increase awareness about ICT around 57 percent agree and 41 percent disagree.

Frequency distribution of Teacher factor clearly shows that around 69 percent of the teachers have a positive attitude towards the use of technology however, 28 percent are disagree with the statement. In case of statements that use of ICT techniques improves teacher's technical competencies around 62 percent of the school teachers agree, and around 36 percent disagree. In case of statements that In-house training provided by the Institute for using ICT is used in class for teaching around 57 percent agree, and around 40 percent disagree. In case of statement that teachers feel motivated while using technology, ICT in teaching around 57 percent agree, and 41 percent disagree.

Combined analysis showcase, **Institutional factor** and **Teacher Acceptance** are the main tools for the successful implementation and acceptance of ICT techniques to create next generation education system, with innovative teaching

methodology and enriched legitimate content. In Delhi and NCR, we observe inclining graph in frequency distribution for Institutional factors towards the adaptation of providing the best platform for teachers and their learning. It also displays that schools are taking initiatives to enforce modern techniques to be used in their schools, to create a better learning environment.

Teachers Acceptance factor, seems to be influenced by demographic profile of teachers, where the young age group (Age less than 30) of teachers seems to be more excited and ready, accepts integration of ICT, as an improvement to their teaching technique and teaching methodology. Teachers for the group of middle age (age above 31 to below 40), do not show excitement, but ready to accept the change and modify the teaching methodology. Senior teachers (Age above 40) hold good knowledge, but their interest shows a downward trend to accept the new change. In Delhi, we are required to focus and convince the contribution of senior teachers, which can actually help and enabled the current educational system to accept and adds more knowledgeable to create interactive teaching techniques to define the new scale of quality enriched learning system. Conclusively, “Teacher Acceptance”, “Technological” and “Institutional” factors are the key drivers to suggest the effectiveness and focused results of ICT in Education in Delhi Schools!

REFERENCES

1. **Anderson, S. E.** A coordinated district consultant/teacher center center approach to school-based teacher development, San Antonio, Texas, 2000.
2. **Albirini, A. A.** Teacher’s attitudes toward information and communication technologies: the case of Syrian EFL teachers. *Journal of Computers and Education*, 47, 2006, PP 373-398.
3. **Cox, M. J. Rhodes. V. & Hall, J.** The use of Computer Assisted Learning in primary schools: some factors affecting the uptake. *Computers and Education*. 12 (1), 1988, PP 173-178.
4. **Daniel Pink, H. American author and journalist.** Vice President of Al Gore in the capacity of chief and speechwriter. – Wikipedia (1995 to 1997).
5. **Davis, N.E., & Tearle, P. (Eds.). (1999).** A core curriculum for telemetric in teacher training. Available: [“www.ex.ac.uk/telematics.T3/corecurr/tteach98.htm”](http://www.ex.ac.uk/telematics.T3/corecurr/tteach98.htm)
6. **Hammer, G.** ICT in Teacher Education at the University of Lisbon, *Interactive Educational Multimedia*. No. 11, 2005, pp 168-172.
7. **Hepp, K. P., Hinostroza, S.E., Laval, M.E., Rehbein, L. F. (2004).** "Technology in Schools: Education, ICT and the knowledge Society "OECD. Available: [“www1.worldbank.org/education/pdf/ICT_report_oct04a.pdf”](http://www1.worldbank.org/education/pdf/ICT_report_oct04a.pdf)
8. **Jessy. A.** Associate Professor, Dept of Teaching, training and NFE, IASE Jamia Millia Islamia, Integration of ICT in pre service teacher education. PhD Education (Published) Jamia Milia Islamia, 2012 pp 64-134.
9. **Kumar M.P.M, Madhumalathi M.N.**"Study on the ICT Awareness Among Teachers, Educators: With focus on Educators", 3, 2016, pp 2781-2785.
10. **MoEVT.** “Information and Communications Technology (ICT) Policy for Basic Education”, URT, Ministry of Education and Vocational Training. 2007.

11. **Singh, H.** "Building Effective Blended Learning Programs", Issue of Educational Technology. 43 (6), 2003, pp 51-54.
12. **Wheeler, S.** The Role of the Teacher in the Use of ICT, for the keynote Speech delivered to the National Czech Teachers Conference. 2000. Available: "<http://www2.plymouth.ac.uk/distancelearning/roleteach.html>"
13. **VyasuluReddi, U. & Sinha, V.** India: ICT use in education. In G. Farrell & C. Wachholz (Eds.), Metasurvey on the use of technologies in education in Asia and the Pacific (pp. 245–252). Bangkok, Thailand: UNESCO-Bangkok. 2003.
14. **Yang, S.C.** Integrating computer-mediated tools into the language curriculum. Journal of Computer Assisted Learning. 2001.
15. **Yusuf, M.O.** Information and communication education: Analyzing the Nigerian national policy for information technology International Education Journal 6 (3), 2005, pp 316-321.
16. **Zhang, Z.** Assistant Professor, Faculty of Education, University. (2008) ICT in teacher education: Examining needs, expectations and attitudes. Available : "<http://www.cjlt.ca/index.php/cjlt/article/view/498/229>"
17. **Zhao, Y. & Cziko, G. A.** Teacher adoption of technology: a perceptual control theory perspective. Journal of Technology and Teacher Education. 9 (1), 2001, pp 5-30.
18. **Zhu and Engels. (2013)** Professor, Department of Educational Sciences (2008) Organizational culture and instructional innovations in higher education: Perceptions and reactions of teachers and students. Available: "https://www.srhe.ac.uk/downloads/events/122_Prof_Chang_Zhu.pdf"

