



Competency in ICT among secondary school teachers in relation to gender and locality

Raj Laxmi

PhD Research Scholar

Department of Education

Lalit Narayan Mithila University, Darbhanga, Bihar

Dr. Shaguftah Jabin

Assistant Professor (Supervisor)

Department of Education,

Directorate of Distance Education, LNMU

Abstract

The study examined the Competency in ICT among secondary school teacher in relation to their gender and locality. Descriptive survey method was used by the investigation. A sample of 300 secondary school teachers working in urban and rural schools of district Patna was selected through stratified random sampling. The researchers used a scale developed by myself Competency in ICT for secondary school teachers. The data collected were analysed using the mean, SD and t test to compare Competency in ICT of male female, urban and rural secondary school teachers. It was found that secondary school teachers have very high Competency in ICT. The results indicated that there is a significant difference in the Competency in ICT male or female secondary school teachers. There is a significant difference in Competency in ICT of urban and rural secondary school teachers.

Keywords: ICT, secondary school teachers, competency, gender, locality of school

Introduction

Education is a first and best key area for ICT applications. ICT is a catalyst is change in teaching style and change in learning approaches. ICT in form of wireless networks, internet, database websites, search engines and web 2.0 technologies. Teachers are as a vital link in the education. Teachers play the role as a medium between the students with the technology the driving force it is a necessary for teachers to prepare and update all facts to be presented in subjects. The use of ICT in teaching learning can make a subject as enjoyable event for all students. The level of a competency and knowledge of ICT skills among teachers in different in view of ICT. Therefore, it is important for teachers to try to improve ICT knowledge and skills through the National Education Technology Standards for teachers 2000 recommended by National Society for technology in education. Teachers use ICT to enhance their productivity and professional practice. Therefore, the teacher should serve as role models to talk about the legal and ethical practices related to technology use. ICT is a technological tools and resources which are engaged to communicate, circulate, creative and manage information. ICT can be seen as instructional tools and devices used by educators and students to transfer and acquired knowledge respectively both outside and within the traditional classroom setting.

Review of Related Literature

A large number of studies show that teachers ICT competency is a significant predictor of their attitude towards ICT. One of them is

Youngman & Harrison (1998) carried out a study that sought to develop ICT in competence and confidence in the use of ICT with portable computers approximately, 300 teachers in 30 Secondary School were provided with a multimedia portable computer together with internet subscription, core software and a number of CDROM titles. The most significant benefit to Pupils was indirect, through the teachers more expert use of tools for creating and high-quality classroom materials and improved access to resources.

Rosenfeld & Martinez Pons (2005) found in their study that competence in the use of technology in the classroom proved to be a direct function of the degree of Technology utilization.

Olalube (2006) concluded that there are significant differences in effectiveness between professionally trained teachers and untrained teachers in their ICT instructional material utilization competencies.

Need of the study

Every field of human activities uses ICT to carry out their daily routines. The field of education is not left out. ICT has indeed changed the way things were formally done in education be it teaching, learning and research. The knowledge of these ICT skills is very essential because they can appeal to learners visual and auditory senses if used effectively. ICT can enhance teaching and learning process by increasing students' motivation if used effectively by competent teachers. ICT resources such as a computer, PCS, laptops, OHP, internet, Interactive whiteboard, cell phone, videos, games, music player should be used in the classroom for effective instructional delivery. Schools are provided with computers for teaching and learning teacher need to be competent in the use of the skill that concerned computer operator which can be used for effective teaching such skills are PPT, doubling, recording of sounds and playing of recorded sounds. Interactive whiteboard promotes interaction and communication in class helps in the presentation of a new culture enhance speaking abilities and provide audio visual learning materials. Teachers need to have the knowledge and skills to use the computer trying to use of internet, email integrate technology in the classroom.

Objectives

- To find out the competency in ICT among secondary school teachers
- To compare the competence in ICT of male and female secondary school teachers
- To compare the competency in ICT of rural and urban secondary school teachers

Hypothesis

- Male and female secondary school teacher do not differ significantly in their competency in ICT
- Rural and urban secondary school teacher do not differ significantly in their competency in ICT

Methodology of the study

A descriptive cum survey method was adopted for the study. The investigation attempted to find out the difference competency in ICT of secondary school teachers in Bihar district of Patna,

Population of the study

All secondary school teachers teaching in Secondary School rural, urban, male and female located in Patna are taken as the population of the study.

Sample

There are 23 blocks in the Patna district, Bihar. Of these blocks 5 were randomly selected. The random sampling method was applied for selecting the sample of schools and stratified random sampling method for selecting teachers as samples. The present study was conducted on a sample of 300 secondary school teachers teaching in secondary schools. 30 secondary schools from urban and rural area Where are randomly selected from these blocks.10 secondary schools teachers from each school in male and female, urban and rural were randomly selected.

Tools for data collection

Competency in ICT questionnaire was designed and standardized by myself 2021 used for the data collection in Patna district Bihar.

Statistical Techniques used in this study

The following statistical methods have been used by the researcher in this study presented percentages, mean, SD, correlation and t test were used to analysis data.

Delimitation of the study

The present study has been the delimited to the following conditions

1. The researcher should restrict to only secondary school teachers in Patna district.
2. This research should confine 300 sample sizes.

Results and discussion

The statement of the problem is concerned there are two independent variables which are gender, locality. The competency in ICT scale was achieved on selected sample teachers and t test value was completed to measure the teacher effectiveness of the secondary school teachers in relation to their gender, locality. The analysis of information is offered as per the hypothesis.

Hypothesis 1

Male and female secondary school teachers don't differ significantly in their competency in ICT

TABLE – 1

Sr. No.	Variable	N	Mean	S.D	df	t test	r	Level of Significance
1	Competency in ICT of male	140	93.84	27.71	298	0.339	0.686	Significant at 0.01 level
2	Competency in ICT of female	160	89.17	15.90				

Table value of df 298 at 0.05 level = 1.962

and at 0.01 level = 2.330

Interpretation:

It can be observed from the table 1 that mean and S.D. values for the Competency in ICT of male are 93.84 and 27.71 respectively and that of the Competency in ICT of female 89.17 and 15.90 respectively. The calculated coefficient of correlation 'r' is 0.686 i.e., high positive correlation. This is less than the table value 0.339 at 0.01 level of significance. Therefore, it is significant at 0.01 level. There is a significance positive correlation between the Competency in ICT of male and female secondary school teachers. Thus, the hypothesis, which states that there is significant positive relationship between the Competency in ICT of male and female secondary school teachers, is **accepted**.

Hypothesis II

Rural and urban secondary school teachers don't differ significantly in their competency in ICT

TABLE – 2

Sr. No.	Variable	N	Mean	S.D	df	r	Level of Significance	t test
1	Competency in ICT of rural	130	88.44	16.60	298	0.748	Significant at 0.01 level	0.45
2	Competency in ICT of urban	170	89.86	16.72				

Table value of df 298 at 0.05 level = 1.962

and at 0.01 level = 2.330

Interpretation:

It can be observed from the table 2 that mean and S.D. values for the Competency in ICT of rural are 88.44 and 16.60 respectively and that of the Competency in ICT of urban are 89.86 and 16.72 respectively. The calculated coefficient of correlation 'r' between the two variables comes out to be 0.778 i.e., very high positive correlation. This is less than the table value 0.45 at .01 level of significance. Therefore, it is significant at 0.01 level. It suggests that there is significance positive correlation between the Competency in ICT of rural and urban secondary school teachers. Thus, the hypothesis, which states that there is significant positive relationship between the Competency in ICT of rural and urban secondary school teachers, is **accepted**.

Findings of the study

The findings obtained from researcher study are as follows:

- There is a significant difference has been found in the competency in ICT of male and female secondary school teachers. The male teacher is high compare than female teacher competency in ICT is considered its utility and its influences in teaching works.
- There is a significant difference has been found in the competency in ICT of rural and urban secondary school teachers. The teachers of the urban are high competency in ICT compare rural schools is considered exposed to ICT resources

Educational implication

Findings of the present study will benefit as the basis date for the advance studies related to ICT. This study promotes to the head of institutions for improving in information & communication technology awareness for the teachers. Parents should also take advantage of the result obtained from research and inform their children about the use of technical education. Increase your understanding of information and communication technology and get more information in this regard and so that children can benefit more.

Suggestions for the further study

Suggestion for the future research is following

- The competency of higher-level teachers can also be studied.
- This research study can also be done to find out the competency of students.
- This similar study can also be done by increasing the sample
- The research studies can also the competency and effectiveness of teachers in this research study.

Conclusion

The level of competency in ICT is high. Based on the findings of this study it was concluded that the teachers process adequate ICT competencies and Interactive whiteboard needed for secondary school teachers. Therefore, the teacher should be properly equipped with computer operation, ppt and Interactive whiteboard skills for effective teaching in secondary school.

The knowledge of ICT usage improves the human capacity in every field of human in endeavors, including business, transaction, industrial Corporation, educational programs and life in general. Increase the quality of competency in ICT of teachers to become better through the proper digital workshop. It was concluded that most teachers have personal computers /laptops but have little and no competence in the usage of ICT. Majority of the teachers related their competency its utility.

References:

- Ajzen, I. & Fishbein, M. (1980) *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice- Hall.
- Collis, B. & Monnen, J. (2001). *Flexible learning in a digital world: Experiences and expectations*. London: Kogan Page.
- Dyck, J. L. & Smither, J. A. (1995). Older adults' acquisition of word processing. The contribution of cognitive abilities and computer anxiety. *Computer in Human Behaviour*, 12 (1), 107-199.
- Idowu, B., Ogunbodede, E., & Idowu, B. (2003). Information and communication technology in Nigeria: The health sector experience. *Journal of Information Technology Impact*, 3 (2), 69-76.
- Jackson, L. A., Ervin, K. S., Gardner, P. D., & Schmitt, N. (2001). Gender and the internet. Women communication and men searching. *Sex Roles*, 44 (5), 363-379.
- Kadel, R. (2005, February). How teacher attitude affect technology. *Learning and Leading with Technology*, 39 (5), 34-47.
- Kazu, I. Y. & Yavulzalp, N. (2008). An analysis of the primary school teachers' usage of instructional software. *International Journal of Emerging Technologies*, 3 (1), 4
- Khine, M. S. (2001). Attitudes toward computers among teacher education students in Brunei Darussalam. *International Journal of Instructional Media*, 28 (2), 147-15
- Kirschner, P. & Woperies, I. G. J. H. (2003). Pedagogic benchmarks for information and communication technology in teacher education. *Technology, Pedagogy and Education*, 12 (1), 127-149.
- Kumar, P. & Kumar A. (2003). Effect of a web-based project on preservice and in-service teachers' attitudes toward computers and technology skills. *Journal of Computing in Teacher Education*, 19(3), 87-92.
- Kyriakidou, M., Chrisostomou, C., & Bank, F. (2000, September). Primary teachers' attitude to the use of ICT: A comparative study between Cyprus and the UK. *Paper presented at the European Conference on Educational Research*. Lahti, Finland.
- Lee, D. (1997). Factors influencing the success of computer skills learning among in-service teachers. *British Journal of Educational Technology*, 28, 139-141.
- Marija, B. & Palmira, P. (2007). Would-Be Teachers' Competence in Applying ICT: Exposition and Preconditions for Development. *Informatics in Education - An International Journal*, 6(2), 397-410.
- Ololube, N. P. (2007). The relationship between funding, ICT, selection processes, administration, planning and the standard of science teacher education in Nigeria. *AsiaPacific Forum on Science Learning and Teaching*, 8(1). Retrieved 15 December 15 2008 from http://www.ied.edu.hk/apfslt/v8_issue1/ololube/index.htm#abstract
- Rajab, L. D. & Baqain, Z. H., (2005). Use of information and communication technology among dental students at the University of Jordan. *Journal of Dental Education*, 69(3), 387-398.
- Sefyrin, J. (2005, July). Understandings of gender and competence in ICT. *Paper presented at 6th International Women into Computing Conference*. University of Greenwich.
- Teo, T. (2008). Pre-service teachers' attitude towards computer use: A Singapore survey. *Australian Journal of Educational Technology*, 23(4), 413-424.
- Townsend, M. (1997). Computer block – does it exist in the comprehensive secondary schools? *British Journal of Educational Technology*, 28, 219-221.
- United Nations Educational, Scientific and Cultural Organization (2008a). *ICT competency standards for teachers: Policy framework*. United Kingdom: Author. Retrieved 23 January 2009 from http://www.oei.es/tic/competencias_tic_docentes_marcos_politicas.pdf
- Yuen, H. K. & Ma, W. K. (2002). Gender differences in teacher computer acceptance. *Journal of Technology and Teacher Education*, 10 (3), 365-382.
- Yusuf, M O. (2005). An investigation into teachers' self-efficacy in implementing computer education in Nigerian secondary schools. *Meridian: A Middle School Computer Technologies Journal*, 8 (2).