

A Study on the Barriers and Supporting Features for Secondary School Teachers in Implementing ICT in Kurnool District

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Abstract: *The integration of information and communication technology (ICT) in teaching and learning provides more opportunities for teachers and students to work better in an information age. However, some barriers may discourage teachers to integrate ICT in the classroom and prevent them to introduce supporting materials through ICT usage. Examining the barriers for using ICT in education can assist the educators to overcome the obstacles and integrate the ICT in everyday education. This study aims to investigate the teachers' perceptions of the barriers and challenges preventing teachers to integrate ICT in the classroom and to identify the category of teachers feel difficulty with ICT and category of teachers easy with ICT. Therefore, a validated questionnaire was administered to 200 high school teachers who were selected from the five main educational mandals in Kurnool district in Andhra Pradesh. The findings indicated that although all teachers had a strong desire to use ICT in the classroom, they were encountered with some barriers. Insufficient technical supports at schools and little access to Internet and ICT were considered as the major barriers preventing teachers to integrate ICT into the curriculum. Moreover, the descriptive analysis of the results showed that shortage of class time was another significant barrier discouraging teachers to use ICT into the classroom.*

The purpose of this study is to investigate the main barriers and possible enablers in implementing ICT. The data were collected by means of questionnaires from 200 teachers in schools. The findings indicate that the majority of the teachers feel the equal supporting and obstacles in implementing ICT.

Key Worlds: *teaching, barriers, supporting, educational settings, ICT implementation.*

INTRODUCTION

A predetermined process is important for the integration of ICTs in the classroom, curriculum,

school management, library, and any educational setting. Integration of ICTs enhances the quality of education by helping teachers to do their job and by helping students to learn more effectively. Teachers who have positive attitudes towards ICT itself will be positively disposed towards using it in the classroom (Moseley & Higgins, 1999). Moreover, Harrison and Rainer (1992) found that participants with negative computer attitudes were less skilled in computer use and were therefore less likely to accept and adapt to technology than those with positive attitudes. Lack of time is one of the biggest constraints to the integration of ICT into the teaching learning situation. Teachers need time to learn how to use the hardware and software, time to plan, and time to collaborate with other teachers. In implementation of ICT there are some barriers and supporting are faced by teachers in schools. Some of common of them are

BARRIERS

- A lack of understanding of the benefits of ICT as a concept in Education
- Attitude and mindset
- Lack of a clear implementation roadmap
- Lack of awareness on the required capacities for implementation ICT.
- Lack of clarity on the variety of materials for the student and the teacher ICT integration skills, understanding and development of digital learning materials lacking
- ICT is not given a real place
- Lack of policy on the introduction of ICTs
- Large classes
- Limited access to technology
- Inadequate teacher preparation
- Curriculum promotes teacher centered approaches
- Irrelevance of the curriculum
- Lack of time
- Lack of appropriate administrative support
- Lack of basic knowledge/skills for ICTs
- crowded classrooms
- inadequate number of ICT-related courses

- lack of computers and other presentation equipment in classrooms
- lack of computer laboratories for use in free time
- lack of technology plans
- lack of motivation of the teacher educators concerning the use of ICTs in their classes
- lack of motivation of the prospective teachers concerning the use of ICTs in their courses and their future classes

Supporting

- Having technology plans
- Offering in-service training
- Allocation of more budget
- Decreasing course load of teacher educators
- Designing appropriate course content and instructional programs
- Having at least one computer in every classroom
- Having at least one free laboratory in every school

OBJECTIVES

1. To study the barriers and supporting features of ICT in implementation by secondary school teachers.
2. To study the barriers and supporting features of ICT in implementation by secondary school teachers basing on their age, locality, qualification, gender, management, experience, medium and subject dealing.

HYPOTHESIS

1. Barriers and supporting features of ICT changes due to their gender.
2. Barriers and supporting features of ICT changes due to their profession.
3. Barriers and supporting features of ICT changes due to their locality.
4. Barriers and supporting features of ICT changes due to their qualification.
5. Barriers and supporting features of ICT changes due to their age.
6. Barriers and supporting features of ICT changes due to their teaching experience.
7. Barriers and supporting features of ICT changes due to their medium.
8. Barriers and supporting features of ICT changes due to their subject.

SAMPLE AND TOOL

A self prepared tool was administered and standardized with five point rating scale containing answers 1,2,3,4 and 5 giving the score as same.

ANALYSIS AND INTERPRETATION

Research hypothesis 1: Barriers and Supporting features of ICT faced by government and private teachers are significant.

Null hypothesis 1: There is no significant difference between barriers and supporting features of ICT of government and private teachers.

Table1: Showing the significant difference between government and private secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Management	N	Mean	SD	t-value
Barriers and supporting features of ICT	Government	115	8.03	1.91	1.1842
	Private	85	7.68	1.91	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 2: Barriers and Supporting features of ICT faced by rural and urban teachers are significant.

Null hypothesis 2: There is no significant difference between barriers and supporting features of ICT of rural and urban teachers.

Table2: Showing the significant difference between rural and urban secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Locality	N	Mean	SD	t-value
Barriers and supporting features of ICT	Rural	100	7.84	2.00	-0.6090
	Urban	100	8.00	1.71	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 3: Barriers and Supporting features of ICT faced by telugu and English medium teachers are significant.

Null hypothesis 3: There is no significant difference between barriers and supporting features of ICT of Telugu and English medium teachers.

Table3: Showing the significant difference between telugu and English medium secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Medium	N	Mean	SD	t-value
Barriers and supporting features of ICT	Telugu	110	7.82	1.68	-0.8576
	English	90	8.04	2.05	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 4: Barriers and Supporting features of ICT faced by below 35y and above 35y age teachers are significant.

Null hypothesis 4: There is no significant difference between barriers and supporting features of ICT of below 35y and above 35y age teachers.

Table4: Showing the significant difference between below 35y and above 35y secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Age	N	Mean	SD	t-value
Barriers and supporting features of ICT	Below 35	120	8.00	1.98	1.1802
	Above 35	80	7.63	1.77	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 5: Barriers and Supporting features of ICT faced by PG and UG qualified teachers are significant.

Null hypothesis 5: There is no significant difference between barriers and supporting features of ICT of PG and UG qualified teachers.

Table5: Showing the significant difference between PG and UG qualified secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Qualification	N	Mean	SD	t-value
Barriers and supporting features of ICT	PG	50	7.74	1.77	0.7985
	UG	150	8.01	1.89	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 6: Barriers and Supporting features of ICT faced by B.Ed. and M.Ed. qualified teachers are significant.

Null hypothesis 6: There is no significant difference between barriers and supporting features of ICT of B.Ed. and M.Ed. qualified teachers.

Table6: Showing the significant difference between B.Ed. and M.Ed. qualified secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Professional qualification	N	Mean	SD	t-value
Barriers and supporting features of ICT	B.Ed.	191	7.95	1.86	1.1558
	M.Ed.	9	7.22	1.64	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 7: Barriers and Supporting features of ICT faced by below 5y and above 5y experience teachers are significant.

Null hypothesis 7: There is no significant difference between barriers and supporting features of ICT of below 5y and above 5y experience teachers.

Table7: Showing the significant difference between below 5y and above 5y experience secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Experience	N	Mean	SD	t-value
Barriers and supporting features of ICT	Below 5years	120	7.84	2.00	-1.1928
	Above 5years	80	8.16	1.52	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

Research hypothesis 8: Barriers and Supporting features of ICT faced by arts and science teachers are significant.

Null hypothesis 8: There is no significant difference between barriers and supporting features of ICT of arts and science teachers.

Table8: Showing the significant difference between arts and science teaching secondary school teachers with respect to barriers and supporting features of ICT

ICT dimension	Subject	N	Mean	SD	t-value
Barriers and supporting features of ICT	Arts	110	8.00	1.98	-0.4242
	Science	90	8.15	1.64	

Not significant at 0.05 & 0.01 level of significance. The null hypothesis is accepted.

FINDINGS FROM THE PRESENT STUDY

- (1) There is no significant difference between barriers and supporting features of ICT of government and private teachers in Kurnool district.
- (2) There is no significant difference between barriers and supporting features of ICT of rural and urban teachers in Kurnool district.
- (3) There is no significant difference between barriers and supporting features of ICT of telugu and English medium teachers in Kurnool district.
- (4) There is no significant difference between barriers and supporting features of ICT of below 35y and above 35y age teachers in Kurnool district.
- (5) There is no significant difference between barriers and supporting features of ICT of PG and UG qualified teachers in Kurnool district.
- (6) There is no significant difference between barriers and supporting features of ICT of B.Ed. and M.Ed. qualified teachers in Kurnool district.
- (7) There is no significant difference between barriers and supporting features of ICT of below 5y and above 5y experience teachers in Kurnool district.
- (8) There is no significant difference between barriers and supporting features of ICT of arts and science teachers in Kurnool district.

CONCLUSSIONS

- (1) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their management i.e.) government and private teachers have same efficiency in barriers and supporting features of ICT.
- (2) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their locality i.e.) rural and urban teachers have same efficiency in barriers and supporting features of ICT.
- (3) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their medium of instruction i.e.) telugu and English medium teachers have same efficiency in barriers and supporting features of ICT.
- (4) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their age i.e.) below 35y and above 35y age teachers have same efficiency in barriers and supporting features of ICT.
- (5) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their qualification i.e.) PG and UG qualified teachers have same efficiency in barriers and supporting features of ICT.
- (6) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their

professional qualification i.e.) B.ED. M.ED. qualified teachers have same efficiency in barriers and supporting features of ICT.

- (7) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their experience i.e.) below 5y and above 5y experience teachers have same efficiency in barriers and supporting features of ICT.
- (8) Barriers and supporting features of ICT of secondary school teachers in Kurnool district are not changes due to their subject teaching i.e.) arts and science teachers have same efficiency in barriers and supporting features of ICT.

SUGGESSTIONS

1. Most of the teachers believe that lack of in-service training, lack of appropriate software and materials, and lack of hardware are the main barriers for integrating ICTs in schools.
2. Technology plans for implementing ICTs in schools should be prepared and implemented.
3. The teacher who integrate ICTs in their courses should be supported (i.e., through incentive payments).
4. The course load of teachers should be decreased.
5. Every ICT-related course should be based on practice-oriented.
6. A new ICT-related course, which must include both ICTs and a field of study

(e.g., science and social), should be integrated in the curriculum.

REFERECNES

- (9) A. Balanskat, R. Blamire, and S. Kefala, A review of studies of ICT input on schools in Europe. *European Schoolnet*, 2006.
- (10) Bromme, R., Hesse, F. W., & Spada, H. (Eds.). (2005). *Barriers and biases in computer mediated knowledge communication-and how they may be overcome*. Dordrecht, Netherlands: Kluwer.
- (11) Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: A review of the literature. *Journal of Information Technology for Teacher Education*, 9(3), 319–341.
- (12) Wan Ali, W., Mohd Nor, H., Hamzah, A., & Alwi, N. (2009, March 31). The conditions and level of ICT integration in Malaysian Smart Schools. *International Journal of Education and Development using ICT* [Online], 5(2). Available: <http://ijedict.dec.uwi.edu/viewarticle.php?id=618>.
- (13) Williams, B. (1995). Factors contributing to successful implementation of computer technology in schools. *Dissertation Abstracts International*, 56(08), 3092.
- (14) Winnans, C. & Brown, D. S. (1992). Some Factors Affecting Elementary Teachers' Use of the Computer, *Computers in Education*, 18, pp. 301-309.