



CORRELATION STUDY ON KNOWLEDGE OF ICT AND PERCEIVED SELF-CONFIDENCE IN USING IT AMONGST SCHOOL TEACHERS

KEYWORDS

Knowledge of ICT, Perceived Self-Confidence, Usage of ICT

Ms. Ruhee Farooqshah Kassam

Gujarat Research Society's Hansraj Jivandas College of Education, Khar West, Mumbai.

ABSTRACT

This study examined the relationship between knowledge of ICT and perceived self-confidence in using it amongst teachers. A survey method was used (N=60, mean age= 35.46 years). An adapted version of the ICT in school census 2013: Post Primary (Teacher Questionnaire) and the confidence in Using ICT scale were administered along with the consent form. A Pearson's correlation test was computed. A significant positive correlation (0.64) between knowledge of ICT and perceived self-confidence amongst teachers was found. A significant positive correlation (0.57) between perceived self-confidence and usage of ICT was obtained. Additionally a significant positive correlation (0.67) between knowledge of ICT scores and usage of ICT scores was found. The implications of the research were discussed.

INTRODUCTION

The invention of tools of information and communication technology (ICT) has caused a 360 degree turn on how most people around the world live their lives. ICT impacts every facet of the lives of people who use it leading to an ever-growing demand for new technologies.

The National Policy of ICT in School Education of India defines Information and Communication Technologies as all devices, tools, content, resources, forums, and services, digital and those that can be converted into or delivered through digital forms, which can be deployed for realising the goals of teaching learning, enhancing access to and reach of resources, building of capacities, as well as management of the educational system. The vision behind introducing the policy is to prepare the Indian youth to establish, sustain and create a knowledge society that leads to all round socio-economic and national and global competitiveness. The key to spread ICT infusion in the society is to train teachers of the primary and secondary level.

However, a very important factor that is directly related to use of ICT resources in the classroom is a teacher's perceived self-confidence. The University of Queensland defines self-confidence as "the belief in oneself and ones abilities." Self-confidence is the way one thinks and feels about oneself internally. Researchers Russell and Bradley (1997) feel that teachers in general are not confident to use computers in the classroom and Albaugh (1997) claims that there is historical resistance in their usage. Also there are few teachers who have received adequate pre-service training in use of ICT and it has been found that many have high computer anxiety and low computer self-efficacy.

Research has shown that a very important aspect of teachers using ICT in their regular teaching process is motivational factors like perceived ability to use ICT, availability of resources, interest in teaching and satisfaction with IT. (Margaret Cox et al, 1999). Teachers who are regular users of ICT perceive it to be an important tool for their personal as well as professional work and intend integrating it more into their future. Such teachers feel that it is important for them to make lessons easier, enjoyable and interesting for their students. They feel that using ICT gives them more power, prestige and makes the administration of the school more efficient. (Shazia Mumtaz ,2000),

On the other hand barriers in integration of ICT in education as categorised by researcher Becta (2004) include teacher related barriers and school related barriers. The teacher related barriers are listed as lack of time, lack of self-confidence and resistance to change or the institution whereas the school related barriers are listed as lack of effective training in solving technical problems and lack of access to resources. Pelgrum (2001) also pointed out that insufficient knowledge of ICT can act as a barrier for integration of ICT.

Reasons like fear of failure, limited knowledge and skills of ICT resources and fear that students of today know more than the teacher; demotivate teachers from using these resources regularly in class and lower their self-confidence. (Beggs 2000; Balanskat et al. 2006)

SIGNIFICANCE OF THE STUDY

This study varies from other studies in that it looks specifically at a teacher's knowledge of ICT and how it affects his/her self-confidence in using it in delivering lessons.

This study can help in understanding the importance of knowledge of ICT for teachers today. It shows how having adequate knowledge of ICT resources and being updated with them helps a teacher to be more self-confident and deliver better instruction.

The findings of this research can be used by the teacher training bodies to design programmes that offer an integrated curriculum for teachers which include ICT in every phase of training. It can also be used by student curriculum designers to formulate activities in a way where the teacher can use the available ICT resources optimally. Proper inclusion of ICT resources can lead to innovation of new pedagogies that will further help enhance the quality of delivery of instruction to students.

OBJECTIVES

- To study a relationship between knowledge of Information and Communication Technology (ICT) and perceived self-confidence amongst teachers
- To study perceived self-confidence and usage of ICT amongst teachers
- To study knowledge of Information and Communication Technology (ICT) and usage of ICT amongst teachers

HYPOTHESES

- There exists a positive correlation between knowledge of Information and Communication Technology (ICT) and perceived self-confidence amongst school teachers
- There exists a positive correlation between perceived self-confidence and usage of ICT amongst school teachers.
- There exists a positive correlation between knowledge of ICT and Usage of ICT amongst school teachers

METHODOLOGY

The investigators used survey method to study.

SAMPLE:

The sample of study consisted of 60 teachers whose maximum age was 54 and minimum age was 23; mean age being 35.46 years. The minimum qualification of the teachers was Bachelors in education (B.Ed). The teachers chosen for the study taught either English/ Science (Physics/Chemistry/Biology)/ Mathematics/ Social Studies (History/Geography)/ Economics or a combination of these subjects.

TOOLS

The investigator used two standardized questionnaires for investigation namely:

1) ICT in school census 2013: Post Primary (Teacher Questionnaire) which had 23 items, followed a four point scale and measured the knowledge of ICT amongst teachers in school.

2) The Confidence in Using ICT scale which had eight items followed a five point scale and measured the confidence of teachers in using ICT for instructional and learning purposes. The variance of this factor was 13.43%. The reliability of this factor was 0.89.

SCOPE OF STUDY

A larger sample area could be examined to get a clearer understanding of the effects of knowledge of ICT on teachers' instruction in the classroom. Future studies can also explore demographic data like the teachers socio-economic status, religion, total years of teaching experience and experience with ICT in teachers instruction. The study can be longitudinal in nature which would help to show how the knowledge and regular practice of ICT can improve a teacher's instruction over time.

PROCEDURE

A survey method was used. The questionnaires were distributed to obtain the data. Before the administration of questionnaire the consent was sought. Questionnaires with missing data were eliminated. Mean and standard deviation were calculated. Pearson's correlation was computed. A scatter diagram was plotted to depict the data graphically.

FINDINGS

The aim of the current study was to test if there exists a relationship between knowledge of ICT and perceived self confidence in using it amongst school teachers.

Hypothesis 1

It was hypothesized that there exists a positive correlation between knowledge of ICT and perceived self-confidence amongst school teachers.

The correlation coefficients i.e. $r(58)$ was found to be 0.64 which was found to be significant at 0.01 for knowledge of ICT and perceived self-confidence in using it.

Table 1

Mean and SD for Knowledge of ICT score and Perceived Self-Confidence score

KNOWLEDGE OF ICT SCORE	PERCEIVED SELF CONFIDENCE SCORE	CORRELATION
2222	1834	0.64

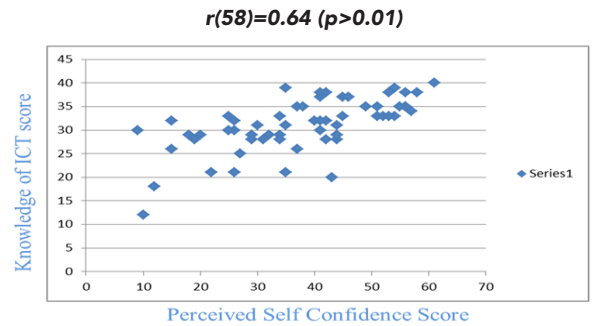


Figure 1
Correlation between Knowledge of ICT score and Perceived Self-Confidence score

With reference to table 1, which indicated the mean and sd values of teachers on knowledge of ICT and self-confidence the results obtained for the knowledge scale were (M- 37.66 , sd- 13.47) and the teacher confidence scale were (M-31.08, sd- 5.62). In reference to figure 1, a scatter plot that represents the correlation between knowledge of ICT and perceived self-confidence, it was seen that the points have clustered to the right top side of the graph indicating that more knowledge leads to more perceived self-confidence .

Hypothesis 2

It was hypothesized that there exists positive correlation between perceived self-confidence and usage of ICT amongst school teachers.

The correlation coefficients i.e. $r(58)$ was found to be 0.67 which was found to be significant at 0.01 for perceived self-confidence and usage of ICT.

Table 2

Mean and SD for Knowledge of ICT score and Usage of ICT score

KNOWLEDGE OF ICT SCORE	USAGE OF ICT SCORE	CORRELATION
2222	309	0.67

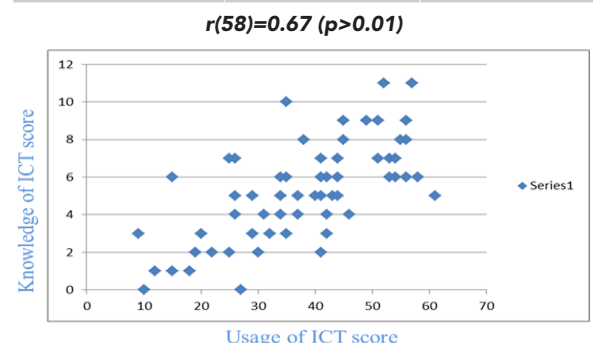


Figure 2
Correlation between Knowledge of ICT score and Usage of ICT score

With reference to table 2, which indicated the mean and SD values of teachers on self-confidence and usage of ICT the results obtained for the teachers confidence scale were (M-31.08, sd- 5.62) and the usage scale were (M-5.24, sd- 2.64). In reference to figure 2, a scatter plot that represents the correlation between perceived self-confidence and usage of ICT, it was seen that the points have clustered to the right top side of the graph indicating that higher perceived self-confidence leads to more usage of ICT.

Hypothesis 3

It was hypothesized that there exists a positive correlation between knowledge of ICT and Usage of ICT amongst school teachers.

The correlation coefficients i.e. $r(58)$ was found to be 0.57 which was found to be significant at 0.01 knowledge of ICT and usage of ICT.

Table 3
Mean and SD for Usage of ICT score and Perceived Self-Confidence score

PERCEIVED SELF CONFIDENCE SCORE	USAGE OF ICT SCORE	CORRELATION
1834	309	0.57

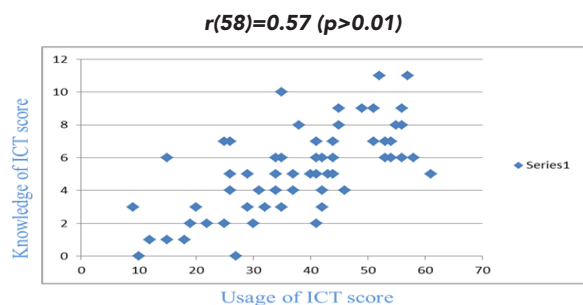


Figure 3
Correlation between Usage of ICT score and Perceived Self-Confidence score

With reference to table 3, which indicated the mean and SD values of teachers on knowledge of ICT and usage of ICT the results obtained for the teachers knowledge scale were (M-37.66, sd- 13.47) and the usage scale were (M-5.24, sd- 2.64). In reference to figure 1, a scatter plot that represents the correlation between knowledge of ICT and usage of ICT, it was seen that the points have clustered to the right top side of the graph indicating that more knowledge of ICT leads to more usage of ICT.

DISCUSSION

The purpose of this research was to attempt to show a link between knowledge of ICT and perceived self-confidence to use ICT amongst school teachers.

- The data obtained in this study pointed to promising results. It was found that there existed a significant positive correlation (0.64) between knowledge of ICT and perceived self-confidence amongst teachers. It was significant at $r(58) = 0.64, p < 0.01$. This implied that having good knowledge of ICT served as cultivator of high self-confidence amongst school teachers. This data can be supported by a study by Freedman and Carlsmith 1989 which indicated that "an individual's knowledge and experience affect his or her attitude towards a particular object, besides the individual's

knowledge is also affected by attitudes."

- For the second hypothesis it was found that there existed a positive correlation (0.67) between knowledge of ICT score and Usage of ICT score which implied that having good knowledge of ICT serves as a tool for more usage of these resources in the classroom. The data was significant at $r(58)=0.67 (p>0.01)$. The third hypothesis also showed that there exists a positive correlation (0.57) between perceived self-confidence and usage of ICT resources amongst teachers. The data was significant at $r(58)=0.57 (p>0.01)$. This data implied that if a teacher is self-confident about her knowledge of ICT s/he is more likely to use it on a daily basis in her classroom instruction. The obtained data was consistent with the findings of Peter R Albion who stated that decisions to use computers in class are influenced by teachers' beliefs to work effectively with technology.

CONCLUSION

To conclude, the data were in line with the first hypothesis i.e. there exists a positive correlation between knowledge of Information and Communication Technology (ICT) and perceived self-confidence amongst school teachers which was found to be significant. These results lead us to believe that being trained in using ICT and having thorough knowledge about it lead to more perceived self confidence in instruction in teachers.

As for the second hypothesis, it was found that the data were in line with the hypothesis i.e. there exists a positive correlation between perceived self-confidence and usage of ICT amongst school teachers. These results lead us to the assumption that if teachers have a higher score in perceived self-confidence they are more likely to make use of ICT resources in the classroom situation and instruction. Finally, for the third hypothesis i.e. there exists a positive correlation between knowledge of ICT and Usage of ICT amongst school teachers, the data was in line which indicated that more the knowledge of ICT amongst teachers more likely are they to use it.

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