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NAVODAYA SCHOOL TEACHERS' COMPUTER KNOWLEDGE AND THEIR ATTITUDE TOWARDS COMPUTER

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ABSTRACT

In the present digital era, the development in various aspects of computer technology has reached beyond our imagination and expectations. Even though computer has a lot of applications in various fields, one should not forget its applications in the field of education. It is very useful and helpful in the teaching and learning process. Therefore, computer literacy is very much needed for teachers as well as learners. The computers have created a revolution in the content of education and in the nature of learning process. They have the capability of multiplying the human intellect beyond part conceptions and have tremendous implications for education. They have a great impact upon our educational system. The teachers should be in terms with the physical reality of the computers, and learn how to take actual advantage of the machines' educational potential. For this, computer knowledge is essential for teachers. Computer knowledge may be stated as "knowing about the various fundamental aspects of computers and the basic skills involved in the operations of computers". It also includes the applications of computer in teaching and learning process. if we consider teachers as sample.

KEYWORDS: present digital era , imagination and expectations.

1. INTRODUCTION:

E- learning, helps the learner to know about the subject he/she wants to learn with the help of the latest technology, the computer. Favourable attitude towards computer plays a very important role in making one really interested in it. Unless the teachers possess a favourable attitude towards computer, they may not be interested in it, which in turn will affect their knowledge of computer and also they will find teaching with help of computer difficult, which in turn will affect students learning. Therefore, if the teachers have favorable attitude towards computer, then there may be a chance for them to be motivated in acquiring knowledge of computer, as it is clear that the computer knowledge is very much needed for teachers. There are some studies conducted abroad on computer knowledge and also the attitude towards computers (Timothy Teo, 2007; Smith & Oosthuizen 2006; Sam HK et al., 2005; Tsai & Tsai 2003 and Denise 2003). In India very few studies have been conducted in this area (Rajasekar.S and Vaiyapuriraja.P, 2007; Rajasekar, 2005; Inamdar et al., 2004; Umme Kulsum, 2002 and Kumaran and Selvaraj, 1997).

The central and state governments are taking tremendous efforts to implement the computer application in the process of teaching and learning. The state government has introduced computer course in the Navodaya schools and in other classes also. The government has started supplying computers to Navodaya schools with suitable software and has started providing facilities to develop computer laboratory. At this juncture, the investigators feel that the Government, after conducting more

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studies in this area would have taken these efforts. To fall in line with this, an attempt has been made to study the teachers' computer knowledge and their attitude towards computer.

2. OBJECTIVES:
a. To study the level of computer knowledge of teachers.
b. To study the teachers' attitude towards computer
c. To study the significance of the difference between the sub-samples of the teachers in respect of their computer knowledge and their attitude towards it.
d. To study the nature of the relationship existing between the teachers' computer knowledge and their attitude towards computer.

3. HYPOTHESES:
a. There is significant difference in the computer knowledge between: male and female teachers; teachers working in government schools and in private schools; secondary grade teachers and graduate teachers Secondary grade teachers and post graduate teachers; and graduate teachers and post graduate teachers
b. There is significant difference in the attitude towards computer between the sub-samples of teachers, falling into as many as six pairs as under hypothesis .
c. There is significant relationship between the computer knowledge of teachers and their attitude towards computer .
d. The above relationship is positive, too.

4. PROCEDURE:
a. Tools:
Tools used were:
1. Computer Knowledge Test (CKT) constructed and validated by the investigators (2007).
2. Attitude towards Computer Scales (ATCS) constructed and validated by Kumaran D and Selvaraj K (1997).

        The computer knowledge test contains as many as 21 multiple choice items for 21 marks and needs 30 minutes for an average person to answer. The person one who scores above 11 is said to have high level of computer knowledge and one who score I 1 and below is said to have low level of computer knowledge. The attitude towards computer scale consists of 36 statements, some depict favorable attitude and some otherwise. Each statement has five options, namely "Strongly Agree", "Agree", "Undecided", "Disagree", "Strongly Disagree". The responses of the subjects were scored by assigning numerical values or arbitrary weights to the two set of items i.e., the statements showing favorable attitude towards computer and the statements showing unfavourable attitude towards computer. The statements showing the favorable attitude towards computer having the scoring as 4,3,2,1 and 0 and for the responses from "strongly agree" to "strongly disagree" and it has been reversed for the statements showing the unfavourable attitude towards computer i.e., 0,1,2,3 and 4 for the responses "strongly agree" to "strongly disagree". Also there are 18 statements showing the favorable attitude towards computer and the statements were 1 to 16, 34 and 35. Also there are 18 statements showing the unfavorable attitude towards computer and the statements were 17 to 33 and 36. An individual score is the sum of all the scores of the 36 items. The score ranges from 0 to 144. The maximum score that one can get in this is 144. The person who scores above 72 is said to have favourabe attitude towards computer and the one who scores 72 and below is said to have unfavourable attitude towards computers.

b. Sample:
        Cluster sampling technique has been used in the selection of the sample of as many as 600 teachers working in Navodaya Schools situated in the Raichur district of Karnataka, India. There are

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137 Navodaya Schools in Raichur district. Out of these, Navodaya Schools as many as 45 Navodaya Schools have been chosen by lottery method. Out of these 45 Navodaya Schools, 25 happened to be located in the urban areas and the remaining 20 were located in the rural areas. Likewise out of the 45 Navodaya Schools, 30 happened to be Government Navodaya Schools and the remaining 15 happened to be Private Navodaya Schools. All the available teachers working in each of these selected Navodaya Schools were chosen as sample. This sample of 670 teachers working in the Navodaya Schools is found to have the following sub-samples: (i) Male (N=300), (ii) Female (N=300), (iii) Teachers' working in urban schools (N=300), (iv) Teachers' working in rural schools (N=300), (v) Teachers working in Government schools (N=300), (vi) Teachers working in private schools (N=300), (vii) Secondary grade teachers (N=200), (viii) Graduate teachers (N=200), (ix) Post-Graduate teachers (N=200).

c.   Statistical Treatment of the Data:

The means and standard deviations of the computer knowledge scores and Attitude towards computer scores were computed directly from the respective raw scores for the entire sample and its nine sub-samples of the Navodaya teachers with the help of computer. The percentages of the entire sample and its nine sub-samples of the Navodaya school teachers who had high level and low level of computer knowledge and those who had favourable attitude and other wise were also computed and were diagrammatically presented. The test 'of significance was used ('t' test) in order to study if there was any significant difference between each selected pair of sub-samples in respect of their computer knowledge and their attitude towards computer. Pearson's product-moment was computed between computer knowledge scores and attitude towards computer scores of the Navodaya school teachers

d.   Reliability and Validity of the Tools Used:

For the computer knowledge test, the reliability was found to be 0.81 using the split-half technique and its intrinsic validity was 0.90. For the attitude towards computer scale the reliability was 0.78 using the split-half technique and its intrinsic validity was 0.88.

5.   DATA ANALYSIS:

Table-1:
Comparison of level of Computer Knowledge among Navodaya school teachers:

Sl. No.	Variable	Level of Computer Knowledge	N	Percentage of Teachers
1	Male	High	120	40.0
		Low	180	60.0
2	Female	High	110	36.7
		Low	190	63.3
3	Private School teachers	High	98	32.7
		Low	202	67.3
4	Govt. School Teachers	High	120	40.0
		Low	180	60.0
5	Secondary grade teachers	High	50	25.0
		Low	150	75.0
6	Graduate teachers	High	33	16.5
		Low	167	83.5
7	Post-Graduate teachers	High	41	20.5
		Low	159	79.5
8	Total	High	105	17.5
		Low	495	82.5

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In respect of the entire sample of teachers, only 16.70% of them belonged to the high level of computer knowledge and as much as 83.30% of them belonged to the low level of computer knowledge. This trend is seen in respect of the sub- samples, too. These findings reveal that the teachers are weak in their computer knowledge.

Table-2:
Comparison of level of attitudes towards Computer among Navodaya school teachers:

Sl. No.	Variable	N	Percentage of Teachers
1	Male	180	60.0
		120	40.0
2	Female	185	61.7
		115	38.3
3	Private School teachers	198	66.0
		102	34.0
4	Govt. School Teachers	191	63.7
		109	36.3
5	Secondary grade teachers	170	85.0
		30	15.0
6	Graduate teachers	153	76.5
		47	23.5
7	Post-Graduate teachers	187	93.5
		13	6.5
8	Total	450	75.0
		150	25.0

As much as 60.40% of the teachers had relatively a favourable attitude towards computer and only 39.60% of them had relatively a unfavourable attitude towards computer. This trend is seen in respect of the sub samples, too.

Table-3: Mean, S.D. and t-value of computer knowledge Scores of Navodaya school teachers:

Sl. No.	Variable	N	Mean	S.D.	t- value
1	Male	300	84	4.23	4.53
2	Female	300	75	3.45	
3	Private School teachers	300	66	5.46	5.16
4	Govt. School Teachers	300	75	6.66	
5	Secondary grade teachers (a)	200	66	4.51	4.21 (a&b)
6	Graduate teachers (b)	200	61	3.66	3.98 (b&c)
7	Post-Graduate teachers ©	200	70	4.51	1.33(a&c)

a. There was a significant difference in computer knowledge between the male teachers and female teachers. Moreover, the female teachers were better than their male counterparts in their computer knowledge.
b. There was significant difference in computer knowledge between the teachers working in the Private and Govt. schools. Moreover, the teachers working in Govt. schools were better than their Private counterparts in respect of their computer knowledge.
c. There was no significant difference in computer knowledge between the secondary grade teachers and graduate teachers. There was no significant difference in computer knowledge between the secondary grade teachers and postgraduate teachers.

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d. There was a significant difference in computer knowledge between the graduate teachers and postgraduate teachers. Moreover, the postgraduate teachers are found to be better than the graduate teachers in respect of their computer knowledge.

Sl. No.	Variable	N	Mean	S.D.	t- value
1	Male	300	154	8.14	
2	Female	300	120	6.47	5.43
3	Private School teachers	300	164	7.31	
4	Govt. School Teachers	300	198	6.87	3.89
5	Secondary grade teachers (a)	200	145	5.12	5.32 (a&b)
6	Graduate teachers (b)	200	168	7.58	4.35 (b&c)
7	Post-Graduate teachers (c)	200	179	6.42	4.52(a&c)

1. There was no significant difference in attitude towards computer between male and female teachers.
2. There was significant difference in attitude towards computer between the secondary grade teachers and graduate teachers. Moreover, the secondary grade teachers were f better than graduate teachers in their favourableness of attitude towards computer
3. There was significant difference in attitude towards computer between the secondary grade teachers and postgraduate teachers.
4. There was a significant difference in attitude towards computer between graduate teachers and postgraduate teachers. Moreover, the postgraduate teachers were better than graduate teachers in their favourableness of attitude towards computer.
5. There is a significant and positive relationship between the computer knowledge and the attitude towards computer of the Navodaya school teachers.

6. CONCLUSION:

It is a very unique study conducted in a developing country like India, to study the teachers' computer knowledge and their attitude towards computer. The present study has revealed many interesting findings. Viz., the majority of teachers working in the Navodaya schools, situated in the Raichur district of Karnataka, India, belong to the low level of computer knowledge and majority of teachers have a relatively favorable attitude towards computer. This reveals that the computer knowledge of the teachers needs to be improved.

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