

Comparative Study

A Comparative Study of Teaching Aptitude of Pupil Teachers in Relation to their ICT Knowledge

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ABSTRACT

Teaching aptitude of a teacher plays a very important role in teaching. The present study has been done to investigate the study of teaching aptitude in relation to their ICT knowledge in kumaun region of uttrakhand. Descriptive survey method of research has been used. Random sampling technique was used to consist a 484 sample of 300 B.Ed and 184 D.El.Ed pupil-teachers. Teaching aptitude scale by Prakash & R.P. Srivastava and ICT knowledge scale constructed and standardized by the investigator were used to measure teaching aptitude and ICT knowledge of pupil-teachers. The study depicts that there is significant difference in teaching aptitude between high ICT knowledge and low ICT knowledge pupil-teachers revealing that high ICT knowledge group have high teaching aptitude than low ICT knowledge group. The investigator found that teaching aptitude of D.El.Ed pupil-teachers were found significantly higher than teaching aptitude of B.Ed pupil-teachers. ICT knowledge of B.Ed. pupil-teachers were significantly higher than the ICT knowledge of D.El.Ed pupil- teachers.

Keywords: *Teaching Aptitude, ICT Knowledge and Pupil- teachers*

The key pillar of the education process is the teacher. We can be confident that the nation will be the future if he is successful, honest, hard-working and confident. A teacher is honored and respected in our country and in our community. Therefore, the concept of aptitude becomes quite significant in teaching profession. In this way aptitude is a capacity of a quite fit to learn certain skills and abilities that are necessary for success in a particular field. Jena (2012) stated that there exists significance differences and positive relationships in teaching aptitude, teaching competency and organizational climate.

Teaching aptitude is one of the major determinants of teacher effectiveness (vyas, 1982). Pandya (1993), Sajan (2010) found that teaching aptitude of female teacher trainees is high whereas Rangnathan (2008), Josh (2010) found the boys and girls student teachers do not differ significantly in their teaching aptitude. Anjali (2015) found interesting result that rural & urban teachers are significantly different from each on the measure of their teaching aptitude whereas Pandya (1993), Kumari et al. (2011) contradicted the result of this study.

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Received: February 13, 2023; Revision Received: February 20, 2023; Accepted: February 23, 2023

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Jeena P.C. (2012) was explored that the significance difference and positive relationship were found in teaching aptitude, teaching competency & organizational climate.

Ramsay (2001) said that learning with ICT was considered to be a means of nurturing meaningful communication, creativity, design and problem solving. It can facilitate differentiation and individualization in education. The use of ICT is also expected to enhance the acquisition and use of knowledge and skills for all. ICT use will improve the efficiency and effectiveness of the management of education, at all levels. ICT can contribute to solving some of the major challenges currently facing educational systems like; access, quality and efficiency of education.

Statement of the Problem

The Problems in the study has been specifically entitled “*A comparative study of teaching aptitude of pupil-teachers in relation to their ICT knowledge*”.

Need and Significance of The Study

It is universally accepted that the quality of nation depends on the quality of its citizen. Teaching aptitude is one of the major determinants of teacher effectiveness (Vyas, 1982; Beena, 1995; Bhasin, 1988; Kukreti, 1990; Shah, 1991; Patil and Deshmukh, 1993).

The potential of ICT in educational setting is said to offer teachers and students the teaching and learning opportunities that improves teaching and learning process, when used appropriately. According to **Peralta & Costa (2007)**, teachers with more experience with computers and ict skills had greater confidence in their ability to use them effectively. Therefore, keeping in mind, the importance of these variables the researcher has selected this research problem.

Objectives of the Study

The major objectives of the study were as under: -

1. To study and compare the teaching aptitude of pupil-teachers on the basis of their ICT knowledge.
2. To study and compare the dimension- wise teaching aptitude of B.Ed and D.El.Ed pupil-teachers.
3. To study and compare the teaching aptitude of B.Ed and D.El.Ed pupil teachers.
4. To study and compare the ICT knowledge of B.Ed and D.El.Ed pupil teachers.

Hypotheses of the Study

The following null hypotheses were formulated to test: -

1. There is no significant difference in the teaching aptitude of pupil teachers on the basis of their ICT knowledge.
 - 1.1 There is no significance difference in the teaching aptitude of pupil teachers on the basis of their low and average ICT knowledge.
 - 1.2 There is no significance difference in the teaching aptitude of pupil teachers on the basis of their average and high ICT knowledge.
 - 1.3 There is no significance difference in the teaching aptitude of pupil teachers on the basis of their high and low ICT knowledge.
2. There is no significance difference in the dimension-wise teaching aptitude of B.Ed and D.El.Ed pupil teachers.
3. There is no significance difference in the teaching aptitude of B.Ed and D.El.Ed pupil teachers.

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4. There is no significance difference in the ICT knowledge of B.Ed and D.El.Ed. pupil teachers.

Delimitation of the Study

This study was limited by a small sample size that covered all the six district of kumaun region. Out of six districts of kumaun region only almora, nainital, Pithoragarh and champawat district were selected for the present investigation. The study was delimited to pupil Teachers studying in Colleges and institutions of Teacher Education (B.Ed), and District Institute of Education and Training (D.I.E.Ts). Only 484 pupil teachers were selected for the proposed investigation.

Method Adopted in Present Study

In the present study descriptive survey method was employed to know the teaching aptitude of prospective teachers in relation to their ICT knowledge.

Population of the Study

The population for the present study consisted of all the pupil-teachers of B.Ed colleges and DIETs of Kumaun region of Uttarakhand in the academic session 2017-18 were the population for the present investigation.

Sample

Random sampling technique was adopted for the selection of sample. Total 484 pupil-teachers have been taken for the study in the academic session 2017-18. Total 300 B.Ed and 184 D.El.Ed pupil-teachers were selected randomly from government financed and self-financed colleges of education of Almora, Nainital, Pithoragarh and Champawat districts.

Research Tools Used in The Present Study

Keeping in mind the objectives of the study, the investigator had used the following research tools to collect the data.

1. Teaching aptitude scale developed and standardized by Prakash & R.P. Srivastava.
2. ICT knowledge scale developed and standardized by the investigator.

Statistical Techniques Used

Mean, Standard deviation and 't' ratio were used to analyze the data.

RESULTS AND INTERPRETATION

Table 1.1 Mean, SD, and t-value of low and average teaching aptitude of pupil-teachers on the basis of their ICT knowledge

Group	N	Mean	S.D.	t- value	Level of significance
Low ICT knowledge	130	159.70	14.93	0.33	n.s
Average ICT knowledge	224	160.27	15.81		

Data presented in table 1.1 show that low ICT knowledge pupil-teachers and average ICT knowledge pupil-teachers were found almost similar in their teaching aptitude. No statistically significant difference was found in teaching aptitude of low and average ICT knowledge group ($t=0.33$).

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The reason may be that both low and average ICT knowledge group have same profession, same interest in teaching work orientation and same knowledge of the subject disseminates the knowledge which effects their teaching in better way. Another reason may be that both groups know well that how to use specific skills with ICT knowledge to make their teaching learning effective and supportive. Whereas teaching success does not depend only on ICT but their positive attitude, perception and ability also important in teaching success. So, the both groups pupil-teachers had same teaching aptitude.

So, the null hypothesis No.1.1 “There is no significant difference in teaching aptitude of pupil-teachers on the basis of their low and average ICT knowledge” is accepted.

Table 1.2 Mean, SD, and t-value of teaching aptitude of pupil-teachers on the basis of their average and high ICT knowledge

Group	N	Mean	S.D.	t-value	Level of significance
Average ICT knowledge	224	160.27	15.81	1.58	n.s
High ICT knowledge	130	163.57	16.42		

Data presented in table 1.2 show that average ICT knowledge pupil-teachers and high ICT knowledge pupil-teachers were found similar in their teaching aptitude. No statistically significant difference was found in teaching aptitude of average and high ICT knowledge pupil-teachers ($t=1.58$).

The reason may be that both average and high ICT knowledge groups had same profession, same interest in teaching work orientation and same knowledge of the subject disseminate the knowledge which effects their teaching in better way. Another reason may be that both groups know well that how to use specific skills with ICT knowledge to make their teaching learning effective and supportive. Whereas teaching success does not depend only on to ICT but their positive attitude, perception and ability also important in teaching success. So, the both group pupil teachers had same teaching aptitude.

So, the null hypothesis No.1.2 “There is no significant difference in teaching aptitude of pupil-teachers on the basis of their average and high ICT knowledge” is accepted.

Table 1.3 Mean, SD, and t-value of high and low teaching aptitude of pupil-teachers on the basis of their ICT knowledge

Group	N	Mean	S.D.	t-value	Level of significance
High ICT Knowledge	130	163.57	16.42	1.99	0.05
Low ICT knowledge	130	159.70	14.93		

Data presented in table 1.3 reveal that the teaching aptitude of pupil-teachers with high ICT knowledge were found to be higher than teaching aptitude of pupil-teachers with low ICT knowledge. The difference was found statistically significant at .05 level of significance ($t=1.99$).

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The reason may be that high ICT knowledge group have more knowledge of the subject and disseminate the knowledge, which affects their teaching in the better way as comparison to low ICT Knowledge group. Another reason might be they use different skills, specific knowledge, and specific skills and greatly aware of ICTs in which they achieve specific objectives of the teaching-learning process very easily. High ICT knowledge group were well known that teacher performance can be enhanced by the use of ICTs. Ramboll (2001) studied ICT generally has a positive impact on teaching and learning situation. Whereas Sonal Sharma (2018) suggested that teacher technical mastery of ICT skill is not a sufficient precondition.

So, the null hypothesis No.1.3 “There is no significant difference in teaching aptitude of pupil-teachers on the basis of their high and low ICT knowledge” is rejected.

Table 2. Dimension wise Mean, SD and t-values of Teaching Aptitude of B.Ed and D.El.Ed pupil teachers

Dimensions of Teaching Aptitude	Groups	N	Mean	S.D.	t-value	Level of significance
1. Cooperative Attitude	B.Ed	300	22.16	10.81	2.75	0.01
	D.El.Ed	184	24.50	07.91		
2. Kindliness	B.Ed	300	18.87	7.39	0.145	n.s
	D.El.Ed	184	18.96	6.15		
3. Patience	B.Ed	300	16.55	6.29	0.73	n.s
	D.El.Ed	184	16.09	7.04		
4. Wide Interest	B.Ed	300	19.21	6.73	3.27	0.01
	D.El.Ed	184	16.98	7.69		
5. Fairness	B.Ed	300	15.21	6.01	2.19	0.05
	D.El.Ed	184	13.96	6.16		
6. Moral character	B.Ed	300	14.19	6.76	2.17	0.05
	D.El.Ed	184	15.67	7.70		
7. Discipline	B.Ed	300	15.02	6.12	0.44	N. S
	D.El.Ed	184	14.76	6.57		
8. Optimism	B.Ed	300	15.67	6.72	2.31	0.05
	D.El.Ed	184	17.20	7.32		
9. Scholarly Taste	B.Ed	300	18.46	9.47	2.15	0.05
	D.El.Ed	184	16.61	9.14		
10. Enthusiasm	B.Ed	300	17.78	9.19	3.66	0.01
	D.El.Ed	184	21.41	11.43		

Data presented in table 2 show that the mean score of teaching aptitude of B.Ed pupil-teachers with respect to wide interest , fairness and scholarly taste dimensions were significantly higher than the mean score of teaching aptitude of D.El.Ed pupil-teachers however, the mean score of teaching aptitude of D.El.Ed pupil-teachers with respect to cooperative attitude, moral character, optimism, and enthusiasm dimensions were significantly higher than the mean score of teaching aptitude of B.Ed. It was also found that the mean score of teaching aptitude of B.Ed pupil- teachers with respect to kindness, Patience, and discipline did not differ significantly than the mean score of teaching aptitude of D.El.Ed pupil-teachers.

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So the null hypothesis No.2 “There is no significant difference in the dimension wise teaching aptitude of B.Ed and D.El.Ed pupil- teachers” is partially rejected.

Table 3 Mean, SD, and t-value of teaching aptitude of B.Ed. and D.El.Ed pupil-teachers

Pupil-teachers	N	M	S. D	t- value	Level of significance
B.Ed	300	168.99	36.14	2.13	0.05
D.El.Ed	184	175.77	32.69		

Data presented in Table 3 clearly show the B.Ed and D.El.Ed pupil teachers and their teaching aptitude. There significant difference was found in their teaching aptitude between B.Ed and D.El.Ed pupil-teachers at 0.05 level of significance. The ‘t’ value clearly shows that D.El.Ed pupil-teachers had more teaching aptitude than B.Ed pupil-teachers ($t=2.13$). This finding was supported by Negi (1993) and Lyngdoh, Angeleen (2013).

The reason may be because most of the teacher trainees already hold a B.Ed degree this shows their love for teaching profession due to job security. Trained teachers use different skills, specific knowledge, specific skills in which they achieve specific objectives of the teaching-learning process very easily. This makes the DIET student teachers well aware of teaching profession and may be because of this DIET pupil-teachers found higher in teaching aptitude than B.Ed pupil-teachers.

So the null hypothesis No.3 “There is no significant difference in the teaching aptitude of B.Ed and D.El.Ed pupil-teachers” is rejected.

Table 4 Mean, SD, and t-value of ICT Knowledge of B.Ed. and D.El.Ed pupil-teachers.

Pupil teachers	N	M	S. D	t- value	Level of significance
B.Ed	300	40.49	6.43	2.07	0.05
D.El.Ed	184	39.02	8.21		

Data presented in Table 4 reveal that B.Ed pupil-teachers were found higher in their ICT knowledge mean score than D.El.Ed pupil-teachers. The difference was found statistically significant at .05 level of significance ($t=2.07$). The reason may be that B.Ed pupil-teachers are more digitally literate and able to use ICTs more than D.El.Ed pupil-teachers.

So the null hypothesis No.4 “There is no significant difference in the ICT knowledge of B.Ed and D.El.Ed pupil-teachers is rejected.

CONCLUSIONS

1. Low ICT knowledge pupil-teachers and average ICT Knowledge pupil-teachers were found more or less similar in their teaching aptitude.
2. Average ICT knowledge pupil-teachers and high ICT Knowledge pupil-teachers were found more or less similar in their teaching aptitude.
3. High ICT knowledge pupil-teachers were found higher in their teaching aptitude than low ICT knowledge Pupil-teachers.
4. The mean score of teaching aptitude of B.Ed pupil teachers with respect to wide interest, fairness and scholarly taste were significantly higher than the mean score of teaching aptitude of D.El.Ed pupil teachers. However, the mean score of teaching aptitude of D.El.Ed pupil teachers with respect to cooperative attitude, moral character, optimisms and enthusiasm were significantly higher than the mean score

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of teaching aptitude of B.Ed pupil-teachers. It is also found that the mean score of teaching aptitude of B.Ed pupil teachers with respect to kindness, patience and discipline do not differ significantly than the mean score of teaching aptitude of D.El.Ed pupil teachers.

5. Teaching aptitude of D.El.Ed pupil-teachers were found significantly higher than teaching aptitude of B.Ed pupil- teachers.
6. ICT Knowledge of B.Ed pupil-teachers were significantly higher than the ICT Knowledge of D.El.Ed pupil- teachers.

Educational Implication

The present study indicates that teaching aptitude plays a major role in affecting the teaching success and effectiveness of the teachers; therefore, students with high teaching aptitude maybe encouraged to come in teaching profession.

The study further revealed that DIET pupil-teachers were having high teaching aptitude than the B.Ed pupil-teachers. This suggests that the DIET pupil-teachers are having more teaching experience which improves the teaching skills and the methodologies adopted. Therefore, teacher training programme should be given proper training of pupil-teachers in order to strengthen the causal-relationship between the various qualities of teachers. Study reveal that B.Ed and DIET student teachers had average level of teaching aptitude with ICT knowledge. Hence, it is expected that teacher training programme should be strongly recommended to revise the existing teachers training programs with respect to admission criteria, curriculum, teaching practice and measurement and evaluation process and to cultivate scientific vision of the world, politics, economics, social and legal culture, and creative thinking, teacher training institutes have to introduce ICT as a necessary base for lifelong learning system.

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Acknowledgement

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Gwal, D. & Gwal, N. S. (2023). A Comparative Study of Teaching Aptitude of Pupil Teachers in Relation to their ICT Knowledge. *International Journal of Indian Psychology*, 11(1), 977-984. DIP:18.01.098.20231101, DOI:10.25215/1101.098