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A study of teaching aptitude among Students of B.Ed. student teachers, school teachers and Teacher Educators

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Abstract

Teaching aptitude refers to an individual's natural ability to teach effectively, developed through necessary training. Teachers must have the aptitude for teaching to foster a modern, educated society. It is essential for becoming a successful teacher. Teaching aptitude includes various elements such as lesson planning, teaching methods, levels of instruction, application of teaching skills, preparation of teaching aids, understanding learner psychology, evaluation methods, and the teaching environment. In this study, the investigator explored the teaching aptitude of B.Ed. student teachers, who are viewed as role models for future school students and the creators of a healthy society. A strong teaching aptitude is crucial for teachers to perform their roles effectively.

Assessing the teaching aptitude of B.Ed. student teachers helps the investigator understand their level of preparedness and their approach to both work and students. The investigator used 37 items from the Teaching Aptitude Test Battery developed by Dr. R.P. Singh and Dr. S.N. Sharma to assess the aptitude of B.Ed. student teachers. The study focused on areas such as attitude towards children, adaptability, professional knowledge, and interest in the profession. A t-test was used for statistical analysis, and 120 samples were collected to evaluate the teaching aptitude of the B.Ed. student teachers. Purposive sampling technique was applied for the study

Key words: Teaching, aptitude, student teacher, school teacher, teacher educators, attitude, adaptability, professional interest.
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1.Introduction:

People differ in their performance across various fields such as leadership, teaching, mechanics, and art. Some individuals excel over others, even under similar conditions, by acquiring specific knowledge or skills that demonstrate their efficiency. This particular ability is referred to as aptitude, and it can vary from person to person in terms of general intellectual ability. Aptitude refers to the qualities that characterize a person's behavior and indicate how well they can meet and solve a specific type of problem (Bingham, 1937). An aptitude is a combination of characteristics that show an individual's capacity to acquire, with training, specific knowledge, skills, or a set of organized responses, such as the ability to speak a language, become a musician, or perform mechanical work (Freeman). Aptitudes are latent potentialities—undeveloped capacities to acquire abilities and skills and to demonstrate achievement (Hahn & Maclean). Knowing an individual's aptitude helps predict their success in a particular field with appropriate training. The higher the aptitude, the greater the chances of success

2.Aptitude for Teaching:

Measuring teaching aptitude is challenging because it encompasses a wide range of subjects and educational levels. The word "aptitude" originates from the Latin word aptus (meaning "fit"). Psychologists define it in various ways, such as the role of training, readiness or quickness in learning, and an acquired capacity for something or the quality of being apt.

Teaching aptitude refers to the acquired capacity of an individual in the teaching profession, developed through comprehensive training and various opportunities. It involves the interaction between teachers and students and includes teaching, tutoring, mentoring, methods of instruction, curriculum design, evaluation, and effective communication. Lal R. and Shergill S.S. (2012) stated that the success of a student depends on both good teaching aptitude and the right aptitude in the teaching profession.

The teaching aptitude as a set of conditions and characteristics possessed by an individual, which not only includes subject knowledge but also their goals and educational background. **Dave N. and Raval D. (2015).** A good student teacher's aptitude includes qualities such as the ability to create lesson plans, updated curriculum

knowledge, familiarity with learning materials, understanding of evaluation methods, skill in organizing multi-level activities, and strong communication skills. these skills help teachers effectively intervene and assist students in specific areas.

3.Operational Definition:

Teaching aptitude: Teaching aptitude refers to the investigator's assessment of teaching aptitude among B.Ed. student teachers, school teachers and Teacher Educators. based on their scores in a questionnaire. This assessment typically focuses on four areas: Attitude towards Children, Adaptability, Professional Information, and Interest in the Profession.

4.Need for Study:

Teaching is most effective when the teacher is equipped with the skills to create an engaging and stimulating learning environment. Such an environment captures students' attention, fosters curiosity, and motivates active participation in the learning process. Additionally, teachers use innovative methods to promote deep understanding and comprehension of the subject while making connections to real-world contexts. Therefore, assessing the teaching aptitude of teachers is crucial.

The teaching aptitude test measures a teacher's potential in the profession. The quality of students depends largely on the quality of their teachers. Many studies show that the reading ability of students is very low, and some teachers in higher grades are unable to solve 5th-grade mathematics problems. The rapid increase in B.Ed. colleges raises concerns about the quality of teachers being produced for society. Evaluations only reflect a person's competency level in their job, but the method of teaching is essential for performing well in the profession. The UGC-NET Paper 1 on teaching aptitude is highly relevant, as it covers many important concepts through multiple-choice questions.

The goal of teaching aptitude is to enhance students' learning skills. This study seeks to assess the teaching aptitude of B.Ed. student teachers, school teachers and Teacher Educators as they are the ones who will influence pupil behavior and contribute to the development of an ideal society. Therefore, it is critical to evaluate the level of teaching aptitude among B.Ed. student teachers.

5.Review of related literature:

Salma Kuraishy and Jarrar Ahmed (2010) studied the difference between prospective teachers with high academic backgrounds and those with low academic backgrounds in terms of teaching aptitude. The respondents with high academic backgrounds were compared on measures of teaching aptitude and its components: mental ability, attitude towards children, adaptability, professional information, and interest in the profession. It was observed that the high academic background group significantly differed from the low academic background group in all these areas.

P. Uma Sankar (2011) assessed the teaching aptitude of engineering students. The findings revealed that female students had greater teaching aptitude than male students. Additionally, there was no correlation between the discipline of study and teaching aptitude among the selected sample.

Jan Tasleema and Malik Muddasir Hamid (2012) found that elementary educators demonstrated higher teaching aptitude compared to secondary educators, based on teaching aptitude test scores.

Rajesh Kumar Srivastav (2016) conducted a comparative study on the teaching aptitude of fresh student teachers and in-service teachers, in relation to their personality traits. The findings indicated that there was no significant difference in teaching aptitude between younger student teachers and in-service teachers.

Dr. Vinita M. Chaudhary (2017), in a study comparing science and arts teachers, found that science teachers had a higher teaching aptitude compared to arts teachers.

Shallu Rani (2021) conducted a study on the teaching aptitude of B.Ed. students, which revealed no significant difference in teaching aptitude between male and female B.Ed. student teachers.

Hetalben B. Rathod and Dr. Dhaval R. Patel (2021), in their study on the teaching aptitude of higher secondary school teachers, found no significant difference between male and female teachers. However, there was a significant difference in teaching aptitude between teachers in granted schools and those in self-financed schools.

Soniyaben Vansiya (2022) studied the teaching aptitude of B.Ed. student teachers and found that student teachers from urban areas had higher teaching aptitude than those from rural areas. Additionally, the research revealed that science stream student teachers had higher teaching aptitude compared to those from the general stream.

Mudasir Abdullah, Irshad Ahmad, and Dr. Masroofa Yousuf (April 2022) conducted a comparative study on the teaching aptitude of trained and untrained secondary school teachers. The results indicated no significant difference in teaching aptitude between the two groups. However, trained teachers exhibited a very high level of teaching aptitude, while untrained teachers showed an average level.

Dr. Dikshaa Gwal and Mr. Naresh Singh Gwal (2023), in their comparative study on the teaching aptitude of pupil-teachers in relation to their ICT knowledge, found a significant difference in teaching aptitude between those with high and low ICT knowledge. Pupil-teachers with higher ICT knowledge had higher teaching aptitude than those with lower ICT knowledge. The study also found that D.El.Ed. pupil-teachers had significantly higher teaching aptitude than B.Ed. pupil-teachers, though the ICT knowledge of B.Ed. pupil-teachers was higher than that of D.El.Ed. pupil-teachers.

Mahendra Singh Belwanshi, Dr. Hemant Kumar Khandai, and Dr. Jamna Prasad Makwe (2023) found that most pre-service teachers possessed average teaching aptitude. The study revealed a positive relationship between teaching aptitude and classroom transactions. Pre-service teachers pursuing the B.Sc. B.Ed. integrated course at RIE, NCERT, demonstrated higher teaching aptitude compared to those in other courses.

6.Statement of the Problem:
A study of teaching aptitude among Students of B.Ed. student teachers, school teachers and Teacher Educators.

7.Objective of the study:

- To assess the teaching aptitude of B.Ed. student teachers based on their subject areas.
- To determine the teaching aptitude of B.Ed. students and teachers based on demographic factors.
- To evaluate the quality of teaching aptitude among B.Ed. student teachers.
- To compare the teaching aptitude of B.Ed. student teachers based on age.
- To compare the teaching aptitude among B.Ed. students, teachers, and educators.

8.Hypothesis of the study:

- There is no significant difference between arts and science B.Ed. student teachers in their teaching aptitude.
- There is no significant difference between Rural and Urban B.Ed. student teachers in their teaching aptitude.
- There is no significant difference between the below 30 and above 30 age of B. Ed. student teachers in their teaching aptitude.
- There is no significant difference between the B.Ed. students and educators in teaching aptitude.
- There is no significant difference between the B.Ed. students and teachers in teaching aptitude
- There is no significant difference between teachers and teacher educators in teaching aptitude.

9.Variables of the study:
The following variables are defined by the researcher.

10.Independent variables:
Independent variables of the present study are as follows:
Area: a)urban b) rural
Stream; a)Science b)General (Arts)
Age: a)below 30 b)above 30
11.Dependent variable:
Scores of the Teaching Aptitude Test are dependent variables in the present study.

12.Limitations of the study:
The limitations of the present study are as follows:

1. The study was conducted with B.Ed. student teachers enrolled in B.Ed. colleges.

2. It included teachers working in private schools and students attending private colleges.
3. The study focused on rural and urban areas within the Madurai district.
4. The study was conducted in self-financed colleges in the Madurai district.

13.Research Methodology:
Research methods are strategies, processes, or techniques used to gather evidence for data analysis to uncover new information or to better understand a subject. Various research methods employ different tools for data collection. In this study, the investigator applied the purposive sampling method for data collection.

14.Sample of the study:
The researcher randomly selected self – finance B. Ed. colleges and schools from Madurai district. In this study, the investigator collected 120 samples from B. Ed., student teachers, teachers and teacher educators.

15.Tools Administered:
The researcher used a standardized Teaching Aptitude Test developed by Dr. R.P. Singh and Dr. S.N. Sharma, selecting thirty-seven items from the Teaching Aptitude Test Battery.

16.Description of the tool:
In this study, the test consisted of 37 items focused on four areas: Attitude towards Children, Adaptability, Professional Information, and Interest in the Profession.

S,No.	**Dimensions**	**No. of questions.**
1	Attitude towards Children	05
2	Adaptability	11
3	Professional information	10
4	Interest in Profession.	11
Total		**37**

17.Administration and scoring:
The test was administered using a purposive sampling method. Items were selected from the Teaching Aptitude Test Battery to collect data from B.Ed. student teachers in both arts and science streams.
Participants were instructed to respond to all items and were given 30 minutes to complete the test. One mark was allotted for each correct response in the dimensions of Attitude towards Children, Adaptability, and Interest in Profession, while a five-point scale was used for Professional Information. Scores were calculated, and grades were assigned to participants based on their marks.

18.Statistical techniques used:
The data was analysed statistically using mean, percentage and t test.' t' test to assess the teaching aptitude among B. Ed. student teachers on age, subject, and demographic.

Table 1
Hypothesis 1.
There is no significant difference between Rural and Urban B. Ed. student teachers in their teaching aptitude.

Variable	**Sub Variable Area**	**N**	**Mean**	**S.D**	**'t' Value**	**Level of Significance at 0.05**
Teaching Aptitude	**Rural** **Urban**	48 53	48.50 47.53	7.814 7.202	0.650	0.51 (NS) Df – 91.73

Table 1 shows that the calculated t-value for teaching aptitude is 0.650, which is not significant at the 0.05 level because it is less than the critical value of 1.96. This result indicates that B.Ed. students from rural and urban colleges do not differ significantly in their teaching aptitude. Thus, the hypothesis that there is no significant difference between rural and urban B.Ed. student teachers in their teaching aptitude is accepted.

Table 2:
Hypothesis 2.
There is no significant difference between arts and science B.Ed. student teachers in their teaching aptitude.

Variable	**Sub Variable Subject Area**	**N**	**Mean**	**S.D**	**'t' Value**	**Level of Significance at 0.05**
Teaching Aptitude	**Arts**	50	46.34	6.859	-2.240	0.02 (S)
	Science	51	49.61	7.767		Df – 97.94

This hypothesis examines whether Arts and Science student teachers differ in their teaching aptitude. The data reveals a mean score of 46.34 for Arts students and 49.61 for Science students. The t-value of -2.240 exceeds the significance threshold at the 0.05 level (p = 0.02), leading to the rejection of the null hypothesis. This suggests a significant difference in teaching aptitude between Arts and Science B.Ed. student teachers, with Science teachers showing a higher aptitude.

Table No 3.
Hypothesis 3.
There is no significant difference between the below 30 and above 30 age of B.Ed.student teachers in their teaching aptitude.

Variable	**Sub Variable Age**	**N**	**Mean**	**S.D**	**'t' Value**	**Level of Significance at 0.05**
Teaching Aptitude	**Below 30** **Above 30**	59 42	48.76 46.90	7.650 7.177	1.234	0.22 (NS) Df – 95.85

Table 3 indicates that the 't' value of B. Ed. student teachers teaching aptitude is 1. 234.. This value is not significant at 0.05 because it is less than the required 't' value of 1.96. It shows that the B. Ed. students aged below 30 and above 30 do not differ significantly in their teaching Aptitude. Thus, the hypothesis that there is no significant difference between B.Ed. student teachers at the ages of below 30 and above 30 in teaching aptitude. So the null hypothesis is accepted.

Table 4
Hypothesis4.
There is no significant difference between the B.Ed. students and school teachers in teaching aptitude

Variable	Sub Variable	N	Mean	S.D	't' Value	Level of Significance at 0.05
Teaching Aptitude	**Student Teacher**	50	48.76,	45.52	-3.463	0.001(S) df – 98.99
	School Teacher	51	46.90	50.41		

Table 4indicates that the 't' value of student teachers of B.Ed. colleges and school teachers
Teaching aptitude 't' value is 3. 463. The value is significant, at 0.01, because it is less than the required 't' value of 2.31. It shows that the B. Ed. students and school teachers significantly differ in their teaching Aptitude. Thus, the hypothesis that there is no significant difference between student teachers of B. Ed. and school teachers in their teaching aptitude is rejected.

Table 5
Hypothesis:
There is no significant difference between the student teachers and educators in teaching aptitude.

Variable	Variable	N	Mean	S.D	't' Value	Level of Significance at 0.05
Teaching Aptitude	Student Teacher Teacher Educators	50 31	45.52 46.35	7.00 7.14	-0.517	0.606(NS) df – 62.17

Table 5 shows that the t-value for teaching aptitude between B.Ed. student teachers and teacher educators is -0.517, which is not significant at the 0.05 level (p = 0.606). Since this p-value exceeds the threshold of 0.05, the difference between the two groups is not statistically significant. Therefore, we accept the null hypothesis, indicating that B.Ed. student teachers and teacher educators do not differ significantly in their teaching aptitude.

TableNo.6
Hypothesis 6
There is no significant difference between the teachers and educators in teaching aptitude

Variable	Variable	N	Mean	S.D	't' Value	Level of Significance at 0.05
Teaching Aptitude	**School Teacher**	51	50.41	7.18	2.483	0.015(S) Df – 63.76
	Teacher Educators	31	46.35	7.14		

Table 6 indicates that the calculated t-value for teaching aptitude between school teachers and teacher educators is 2.483. This value is significant at the 0.05 level, as it exceeds the critical t-value of 1.96. This result shows a significant difference in teaching aptitude between school teachers and teacher educators, with school teachers demonstrating higher aptitude. Therefore, the null hypothesis, which proposed no significant difference between these groups, is rejected.

19.Results and discussion:

The findings of the present research are as follows:

The findings of this study highlight several key insights into the teaching aptitude of B.Ed. student teachers, school teachers, and teacher educators, examined across various demographic and professional variables. Firstly, there is no significant difference in teaching aptitude between Rural and Urban B.Ed. student teachers or between those below and above 30 years of age. This suggests that demographic factors, such as location and age, do not influence teaching aptitude. As teaching is a highly respected profession, its efficacy may instead depend on individuals' dedication and the quality of training they receive, rather than on geographical or age-related differences. These results align with the findings of Seetharaman and Rajasekar (2014) and Ahuja (2018), who observed no significant impact of locality on teaching aptitude, underscoring that quality training received at educational institutions is crucial in shaping teachers' skills effectively.

Conversely, a significant difference was found between Arts and Science B.Ed. student teachers in their teaching aptitude. Science teachers displayed higher aptitude, which may be attributed to the experiential learning methods in science education that involve hands-on practices, laboratory work, and demonstration skills. Vinita (2020) supports this finding, concluding that the academic background and exposure to practical applications likely enhance science teachers' aptitude. Furthermore, during the study, it was observed that B.Ed. student teachers possess higher teaching aptitude than school teachers, potentially due to the integration of modern technologies, such as PowerPoint presentations, quizzes, and QR scanners, in their training. This aligns with Uma Sankar (2011), who highlights the role of technological skills in boosting teaching effectiveness.

Additionally, school teachers demonstrated significantly higher teaching aptitude compared to teacher educators. This difference may be due to the real-world classroom experience that school teachers gain, which enables them to enhance their skills in managing and engaging students effectively. This multidimensional exposure allows them to refine their teaching practices continually, as also noted by Guilford (1954) in his exploration of teaching competencies shaped through direct classroom involvement. Lastly, there was no significant difference between B.Ed. student teachers and teacher educators in teaching aptitude, suggesting that their similar training and shared educational objectives contribute to comparable aptitude levels. This conclusion is consistent with findings from studies in the International Journal of Professional Studies (2017) and Journal of Education and Practice (2012), which indicate that B.Ed. students and teacher educators benefit from common program goals, aimed at fostering creativity, social skills, and pedagogical competencies.

these results underscore the importance of training quality and practical experience in developing teaching aptitude. High-quality educational institutions play a vital role in producing adept teachers who, in turn, contribute to the intellectual and social growth of society. This study bridges gaps in understanding the impact of demographics and professional training on teaching aptitude, offering valuable insights for future teacher training programs.

20.Conclusion:

Teachers are fundamental to the development of students and the effectiveness of the educational system. A skilled teacher not only imparts knowledge but also shapes students' character, instills confidence, and fosters positive behavior, thereby preparing them to be productive citizens. This study evaluated the teaching aptitude of B.Ed. student teachers in relation to demographic factors (such as location and age) and academic background (Arts vs. Science), as well as compared their aptitude with that of school teachers and teacher educators.

The findings suggest that demographic factors, like location and age, do not significantly impact teaching aptitude, indicating that dedication and quality training are more influential. However, a significant difference was found between Arts and Science B.Ed. teachers, with Science teachers showing greater aptitude, likely due to the experiential learning integrated into science education. Additionally, B.Ed. student teachers demonstrated higher teaching aptitude than school teachers, potentially due to modern training tools and techniques. School teachers, in turn, displayed higher teaching aptitude than teacher educators, which may be attributed to their direct, hands-on Classroom experience. Ultimately, producing quality teachers relies on the quality of training institutions and the methodologies they employ. Effective teaching involves not only

imparting knowledge but also fostering critical thinking, adaptability, and social skills. Thus, well-trained, high-aptitude teachers are essential for cultivating students who can contribute positively to society. This study reinforces the role of teacher training programs in shaping effective educators who meet the evolving needs of education.

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