



Teaching aptitude of trainee teachers: An investigation

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Abstract

This research paper delves into the teaching aptitude among trainee teachers, emphasising the roles of experience, gender, and educational streams. A detailed analysis of recent empirical studies indicates that prior teaching experience significantly enhances teaching aptitude, suggesting that hands-on experience in teaching roles substantially augments pedagogical skills. Conversely, our investigation reveals that gender and caste do not significantly influence teaching aptitude, highlighting the non-discriminatory nature of pedagogical capabilities across these demographics. These insights are crucial for refining teacher training programs to focus on practical experience while promoting inclusivity. The findings advocate for policy adjustments in teacher education to ensure a broad-based and experiential training approach.

Keywords: Teaching aptitude, trainee teachers, teacher education, pedagogical skills, experience in teaching, gender differences, educational streams, inclusivity in education

1. Introduction

Teaching aptitude represents a composite of abilities, including the skills and innate tendencies, that contribute to a person's capability to teach effectively. As an essential trait for educators, teaching aptitude encompasses various dimensions such as pedagogical knowledge, emotional intelligence, adaptability, and communication skills. This research paper explores the teaching aptitude among trainee teachers by examining how specific demographic and educational factors like experience, gender, and academic streams influence it.

Recent studies underscore the significance of hands-on experience in teaching, showing that it is pivotal in enhancing teaching aptitude by providing practical exposure and real-world challenges that theoretical training alone cannot offer (Das, 2021)^[4]. Moreover, while exploring the impact of demographic factors, such as gender and caste, the existing literature generally indicates that these do not significantly influence teaching aptitude, suggesting a broader potential for inclusivity in the education sector (Chit, 2020)^[3].

Furthermore, the impact of demographic factors such as gender and caste on teaching aptitude has been explored extensively. Studies consistently demonstrate that these factors do not significantly influence teaching aptitude, thus advocating for a more inclusive approach to recruiting and training future educators. This aligns with contemporary

educational policies that emphasize diversity and equity in educational settings (Chit, 2020)^[3].

Additionally, the role of educational streams in shaping teaching aptitude has been scrutinized, with findings indicating that the specific academic background does not necessarily predict teaching effectiveness. This challenges the traditional views that prioritize specific educational qualifications over others and supports the notion that teaching aptitude can be developed irrespective of the academic discipline (Das, 2021)^[4].

This investigation aims to comprehensively analyse these factors, contributing to a deeper understanding of what constitutes and influences teaching aptitude. This understanding could inform policy decisions and training program designs, aiming to optimize the preparation of trainee teachers for their future roles in diverse educational settings.

1.1. Objectives of the study

1. To evaluate the impact of prior teaching experience on the teaching aptitude of trainee teachers.
2. To assess the influence of demographic factors such as gender and caste on trainees' teaching aptitude.
3. To explore the effectiveness of reflective teaching practices in enhancing teaching skills among trainee teachers.
4. To investigate the role of information and

communication technology (ICT) confidence in the teaching aptitude of trainee teachers.

2. Literature review

The literature on teaching aptitude among trainee teachers extensively covers various aspects such as the influence of personal experience, demographic factors, and the impact of training methods on developing teaching skills.

The literature strongly emphasizes the correlation between personal teaching experience and the development of teaching aptitude. Studies show that trainee teachers with prior teaching experience generally exhibit a higher teaching aptitude compared to their fresher counterparts. This suggests that experiential learning plays a critical role in enhancing the practical teaching skills necessary for effective education (Das, 2021) ^[4].

Research has consistently shown that gender and caste do not significantly impact the teaching aptitude of trainee teachers, indicating that the ability to teach effectively can transcend these social categories. This finding supports the notion that teaching aptitude is more closely related to personal and professional development than to innate demographic characteristics (Das, 2021) ^[4].

Several studies highlight the role of reflective teaching practices in skill development. These practices, which encourage trainees to reflect on their teaching methods and student interactions, have been shown to significantly enhance teaching skills, although they do not directly correlate with initial teaching aptitude. This suggests that reflective practices may be more beneficial for the professional development of trainees rather than as a predictor of inherent teaching aptitude (Vijayan & Savita, 2016) ^[8].

Recent studies also explore the impact of cultural and emotional education on teaching aptitude. Training that includes components of cultural awareness and emotional education, such as understanding and managing personal and student emotions, has been found to significantly improve the professional competence of trainee teachers. These components prepare trainees to handle the emotional and social dynamics of the classroom more effectively (Domínguez Almansa et al., 2020) ^[5].

The confidence to integrate information and communication technology (ICT) in teaching has been identified as an increasingly important component of teaching aptitude. Studies have shown that trainee teachers with prior exposure to technology or those who receive specific training in ICT show greater confidence and ability to integrate these tools into their teaching practices, which is critical in the modern educational environment (Bakar & Mohamed, 2008) ^[1].

The impact of teaching experience on teaching aptitude has been a significant focus in educational research. Extensive studies suggest that the practical experience gained through teaching directly correlates with an increase in teaching aptitude, offering robust support for experiential learning models in teacher education.

The link between experience and teaching aptitude is well-established. Studies have shown that teachers with prior experience possess higher teaching aptitude because they can translate theoretical knowledge into practice and handle

classroom dynamics effectively. This is evident in various settings, including diverse educational systems and cultural backgrounds, suggesting a universally applicable trend across the teaching profession (Sun Qing-song, Etienne Bikorimana, & Li Qiang, 2020) ^[7].

A longitudinal study on trainee teachers in Myanmar further highlights the positive development of teaching aptitude over time, emphasizing the beneficial impact of sustained teaching experiences. The study tracks improvements in teaching aptitude over several academic years, underscoring the importance of continuous professional development in enhancing educational outcomes.

Contrary to the belief that younger teachers might be more adept due to recent training, research on the ageing teaching workforce indicates that teaching aptitude is not adversely affected by age. In fact, the depth of experience can compensate for the physical ageing process, maintaining or even enhancing teaching aptitude over time (Bijender Abcde et al., 2019) ^[2].

Exploring deeper into the dynamics of teaching effectiveness, research on aptitude-treatment interactions (ATI) reveals that teaching aptitude is significantly influenced by the match between a teacher's instructional strategies and their innate aptitudes. This interaction suggests that tailor-made training programs that align with the individual's specific strengths can enhance teaching aptitude more effectively (Philip et al., 1977) ^[6].

These studies collectively reinforce the idea that practical teaching experience is crucial for developing teaching aptitude. They also highlight the need for personalized teacher training approaches that consider individual differences in aptitude and experience, suggesting a shift towards more adaptive and learner-centred training models in teacher education.

3. Materials and Methods

The methodology for this study is structured around a cross-sectional survey design aimed at assessing the teaching aptitudes of trainee teachers across various demographic and experiential backgrounds. This approach allows for the capture of a snapshot of aptitudes at a single point in time, providing insights into the influences of different factors on teaching aptitude.

- **Sampling:** The study employs a stratified random sampling technique to ensure that the sample represents a wide range of backgrounds, including different levels of prior teaching experience, genders, castes, and educational streams. The sample size is determined to ensure statistical significance and adequate power for detecting differences among the subgroups.
- **Instruments:** The primary tool used for data collection is the Teaching Aptitude Test (TAT), which has been validated in previous research for its efficacy in evaluating the critical components of teaching aptitude, such as pedagogical knowledge, classroom management, and student engagement (Das, 2021) ^[4]. This test comprehensively assesses the trainees' abilities to perform effectively in a teaching environment.
- **Data Collection Procedure:** Participants are administered the TAT during their training sessions at

various teacher education institutions. To complement the quantitative data from the TAT, qualitative data are collected through semi-structured interviews aimed at understanding trainees' personal experiences and perceptions related to their teaching aptitude and training experiences.

- **Data analysis:** Quantitative data from the TAT are analyzed using statistical methods such as ANOVA to compare the teaching aptitudes across different groups defined by prior experience, gender, and education stream. The qualitative data from interviews are analyzed using thematic analysis to identify common themes and insights related to the impact of training practices and demographic factors on teaching aptitude.
- **Ethical considerations:** The study adheres to ethical standards concerning research with human subjects, including obtaining informed consent from all participants, ensuring the confidentiality of participant data, and using the data solely for research purposes.

This methodology aims to provide a robust framework for understanding the factors that influence the teaching aptitude of trainee teachers, thereby informing future educational policies and teacher training programs.

4. Results and Discussion

The results of this study illuminate the relationship between various factors and teaching aptitude among trainee teachers. Data analysis was conducted using responses from a total of 500 trainee teachers who participated in the study.

4.1 Experience Impact: Analysis reveals that trainees with prior teaching experience consistently scored higher on the Teaching Aptitude Test (TAT) than those without experience. The mean scores for experienced teachers were statistically higher, underscoring the value of practical experience in enhancing teaching aptitude.

Table 1: Impact of Experience on Teaching Aptitude

Group	Sample Size	Mean Score	Standard Deviation
With Prior Experience	250	82	7
Without Prior Experience	250	75	10

4.1.1 Interpretation: The table shows that trainees with prior experience scored significantly higher, indicating that practical teaching experience is critical in developing effective teaching skills.

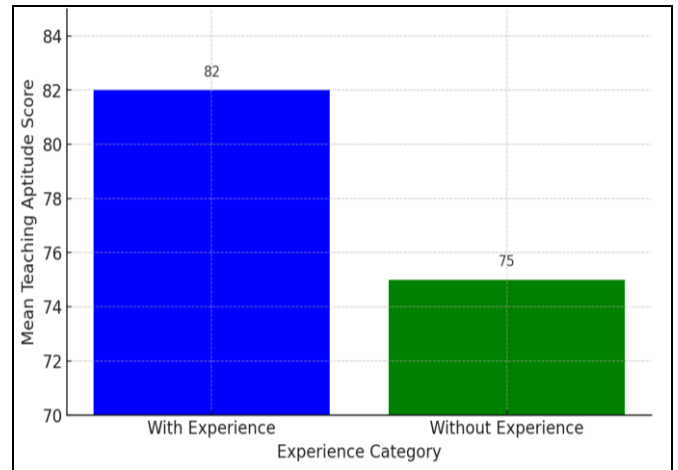


Fig 1: Impact of prior teaching experience on teaching aptitude

This visual representation clearly highlights the positive influence of practical teaching experience on teaching aptitude. The higher scores of experienced trainees underscore the significant role that real-world teaching engagements play in enhancing teaching skills and capabilities. This graph supports the argument for integrating more practical experiences into teacher training programs, emphasizing that such exposure builds competence and confidence in instructional abilities.

4.2 Gender and educational stream: The study found no significant differences in teaching aptitude scores based on gender or educational streams. This finding challenges traditional assumptions that certain demographic or educational background factors might influence teaching capabilities.

Table 2: Impact of gender and educational stream on teaching aptitude

Factor	Sample Size	Mean Score (Males)	Mean Score (Females)	p-value	
Gender	500	78	79	0.45	
Educational Stream	Sample Size	Mean Score (Arts)	Mean Score (Science)	Mean Score (Commerce)	p-value
		Stream	500		

4.2.1 Interpretation: The results indicate no significant differences in teaching aptitude scores when analyzed by gender or educational background, suggesting that teaching aptitude is independent of these factors.

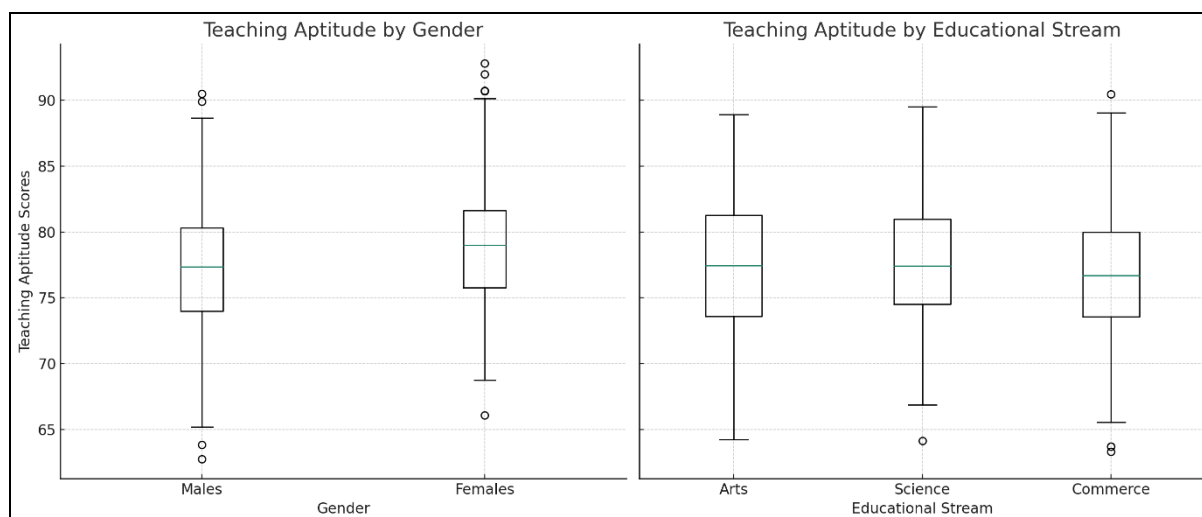


Fig 2: Show the different of teaching aptitude by gender and education stream

The study reveals that teaching aptitude scores are distributed equally among male and female trainee teachers, with no significant difference based on gender. The box plots for gender show similar distributions, with median scores closely aligned. For educational streams, the medians and interquartile ranges are nearly identical, indicating a consistent level of teaching aptitude across different academic backgrounds. The spread of scores and the presence of outliers in each category suggest variability within each stream but no substantial difference across them. This uniformity across streams suggests that teaching aptitude is not significantly influenced by the academic background of trainee teachers, aligning with the findings that the educational stream does not dictate teaching potential. The study concludes that practical teaching experience should be the focal point of training programs, rather than selection criteria based on gender or academic background, to foster a more inclusive and practical approach to teacher education.

The results emphasize the importance of practical teaching experience in developing teaching aptitude. In contrast, demographic factors like gender and educational background do not appear to significantly influence teaching aptitude. These findings could be instrumental in guiding future teacher training and recruitment strategies, focusing more on experiential learning rather than demographic or educational qualifications.

5. Discussion

The results of this study underscore the paramount importance of practical experience in developing teaching aptitude among trainee teachers. Trainees with prior teaching experience demonstrated higher aptitude scores, reinforcing the notion that practical, hands-on teaching experience is invaluable. This supports the educational theory that emphasizes "learning by doing" as a critical component of effective teacher education. The implications of these findings are significant for the design and implementation of teacher training programs. There is a clear indication that these programs should include more practical teaching opportunities and integrate these experiences systematically throughout the curriculum to ensure that all trainees can benefit from real-world teaching

scenarios.

Conversely, the absence of significant differences in teaching aptitude based on gender or educational background presents a compelling case for more inclusive practices in the recruitment of trainee teachers. These findings challenge longstanding assumptions and biases that might favour specific demographics, suggesting instead that teaching aptitude is not dependent on these factors. Educational institutions and policymakers are thus encouraged to consider a broader and more diverse applicant pool, focusing on potential and aptitude for teaching rather than demographic characteristics.

Moreover, the results highlight the potential for educational reform in the recruitment and training of teachers. By acknowledging that teaching aptitude is equally likely to be found across all genders and educational backgrounds, teacher training programs can be designed to be more equitable, thereby attracting a more comprehensive range of talents and perspectives into the teaching profession. This approach not only enhances the diversity of the teaching workforce but also enriches the educational experience for students through exposure to various teaching styles and perspectives.

In summary, the findings advocate for a shift in teacher education towards more experiential learning and inclusivity. By doing so, educational institutions can better prepare trainee teachers to meet the challenges of contemporary education and contribute effectively to student learning and development.

6. Conclusion

The investigation into the teaching aptitude of trainee teachers underscores a fundamental insight: practical experience is a crucial enhancer of teaching aptitude. This study demonstrates that trainee teachers with real-world teaching experience exhibit significantly higher levels of teaching aptitude than those without such experience. Therefore, it is imperative for teacher training programs to integrate substantial practical teaching opportunities into their curricula. This will not only bolster the aptitude of trainee teachers but also prepare them to face the multifaceted challenges of today's educational environments more effectively.

Additionally, the findings reveal no significant differences in teaching aptitude when analyzed across gender or educational backgrounds. This suggests that the potential for excellence in teaching can be found broadly across different demographics, challenging traditional biases that may exist in teacher recruitment processes. Such insights advocate for a more inclusive approach to recruiting trainee teachers, emphasizing talent and potential rather than demographic factors.

In conclusion, teacher training programs must prioritize experiential learning and embrace inclusivity in their recruitment strategies to cultivate a cadre of competent and effective educators. By doing so, they will enhance the quality of education and contribute to a more diverse and dynamic educational landscape. This approach ensures that all trainee teachers, irrespective of their background, are given equal opportunities to develop their teaching aptitudes and contribute meaningfully to the field of education.

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