

## **A Study on Teaching Aptitude and Academic Achievement of B.Ed. Students in Relation to Medium of Instruction**

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### **Abstract**

This study investigates the influence of the medium of instruction on the teaching aptitude and academic achievement of B.Ed. students. With the growing emphasis on linguistic inclusivity and educational equity in teacher education, particularly under the National Education Policy (NEP) 2020, understanding how the language of instruction impacts teacher trainees is crucial. The study adopted a descriptive survey design and was conducted on a sample of 280 B.Ed. students, randomly selected from three teacher education colleges affiliated with Guru Nanak Dev University, Amritsar. To assess teaching aptitude, the Teaching Aptitude Test (2010) developed by Dr. S.C. Gakhar and Dr. Rajnish was administered. A self-constructed questionnaire was used to collect demographic and instructional data, including the medium of instruction, while academic achievement scores were obtained from institutional records. Descriptive statistical techniques such as Mean, Standard Deviation, and t-test were employed for data analysis. The objectives of the study were to examine the effect of the medium of instruction on teaching aptitude and academic achievement of B.Ed. students. The findings revealed statistically significant differences in both teaching aptitude and academic achievement based on the students' medium of instruction. Specifically, students taught in different languages showed varying levels of aptitude and performance, suggesting that language plays a critical role in shaping teacher readiness and educational success. The results underscore the importance of considering the medium of instruction as a key factor in teacher education programs. The study concludes that instructional language not only affects how future teachers perceive and engage with the teaching profession but also influences their academic outcomes during teacher training.

*Keywords:* Academic Achievement, Medium of Instruction, Teaching Aptitude

**Introduction**

Teaching is widely regarded as one of the most essential yet demanding professions, requiring educators to guide learners through well-structured instructional experiences aimed at achieving meaningful educational goals. The effectiveness of teaching is shaped by various factors, with language serving as a critical component. Although many individuals possess proficiency in multiple languages, foundational cognitive processes like thinking, reasoning, and problem-solving are primarily conducted in their mother tongue. This phenomenon highlights the importance of language in shaping how individuals learn and process information. Given the diversity of languages spoken in various regions, the choice of medium of instruction becomes a crucial factor in influencing students' academic performance and overall learning experience. The National Education Policy (NEP) 2020 addresses this issue by advocating for the use of students' home language, mother tongue, or regional language as the primary medium of instruction. Specifically, the policy recommends that this practice continue at least until Grade 5, with a preference for extending it through Grade 8 and beyond, wherever feasible. This approach recognizes the cognitive advantages of learning in a language that students are most comfortable with, aiming to foster better comprehension, engagement, and overall educational success. Numerous global and national studies have shown a strong correlation between academic achievement and the language of instruction. For instance, research from the University of Bozen-Bolzano found that students examined in a second language experienced an average loss of 9.5% in grade points. Other international cases—from Morocco's shift in instructional language to Latvia's language policy reform—also highlight how language affects educational outcomes, literacy rates, and even long-term economic performance. In the context of teacher education, this issue becomes even more critical. Teaching aptitude, which represents a prospective teacher's ability, interest, and inclination towards the profession, along with academic achievement, can be significantly influenced by the language in which professional training is delivered. With increased global mobility and the rise of English as a medium of higher education, students are increasingly required to learn and perform in a second language, which may affect their academic confidence and teaching potential.

In this context, the present study aims to examine the relationship between the medium of instruction and the teaching aptitude and academic achievement of B.Ed. students. By focusing on

teacher trainees from Amritsar district, the study aims to shed light on how language influences the formation of competent and confident future educators in India's evolving linguistic and educational landscape.

### **Teaching Aptitude**

Teaching aptitude refers to an individual's natural ability, tendency, and readiness to perform effectively in the teaching profession. It reflects the combination of cognitive, emotional, and behavioral traits that facilitate successful teaching and meaningful interaction with students. Teaching aptitude goes beyond academic knowledge; it encompasses a deep-rooted interest in the teaching profession and the capability to adapt, manage, and communicate effectively in a learning environment.

### **Significance in Teacher Education**

In the context of B.Ed. students, teaching aptitude plays a crucial role as it not only influences their performance during the teacher training program but also serves as a predictor of future effectiveness as educators. Understanding and assessing teaching aptitude helps in identifying suitable candidates for the profession and in designing appropriate interventions to enhance teaching competencies.

### **Components of Teaching Aptitude:**

- **Attitude Towards Teaching:** A positive and enthusiastic outlook toward the teaching profession is fundamental. This includes a willingness to engage with students, take responsibility for learning outcomes, and demonstrate a commitment to lifelong learning and professional development.
- **Ability to Explain and Demonstrate Concepts:** The skill to simplify complex ideas and present them in an engaging and understandable manner is central to effective teaching. This aspect assesses the individual's ability to think clearly, apply effective instructional methods, and utilize suitable teaching aids.
- **Emotional Stability and Patience:** Teachers must manage stress, remain composed in challenging situations, and exhibit patience, especially when dealing with diverse learner needs. Emotional intelligence enhances teacher-student relationships and supports a positive classroom climate.

- **Classroom Engagement Strategies:** This includes the ability to maintain discipline, motivate students, and foster an interactive and inclusive learning environment. Strong classroom management skills and the ability to actively engage students are key indicators of teaching aptitude.

### **Academic Achievement**

Academic achievement encompasses the measurable outcomes that reflect a student's success in meeting the educational objectives set forth in the Bachelor of Education (B.Ed.) program. It serves as a key indicator of a student's academic progress and mastery of subject matter. This achievement is typically evaluated through a combination of formal assessments—such as semester examinations, internal tests, assignments, and practical teaching sessions—as well as informal assessments like classroom participation, projects, and peer evaluations. The performance is often recorded in the form of marks, grades, or Grade Point Averages (GPA), which collectively illustrate the extent to which the student has understood and applied the theoretical knowledge and pedagogical skills required for effective teaching. Academic achievement not only reflects individual learning outcomes but also provides insights into the effectiveness of the instructional methods and the learning environment. In the context of teacher education, it is particularly significant, as it directly relates to the preparedness and competence of future educators to handle classroom responsibilities and contribute meaningfully to the academic growth of their students.

### **Importance in Teacher Education**

Academic achievement in teacher training programs is a significant indicator of a student's understanding of pedagogical theories, subject knowledge, and teaching methodologies. High academic performance often correlates with better preparedness for classroom teaching, professional responsibilities, and overall success in the field of education. It also plays a role in students' eligibility for further studies, scholarships, and employment opportunities.

### **Components of Academic Achievement**

- **Theory Examination Scores:** These include the marks obtained by students in written examinations, which assess their conceptual understanding of educational foundations, teaching-

learning processes, educational psychology, curriculum, and assessment, among others. It forms a substantial part of the overall academic achievement.

- **Practical Work and Assignments:** Practical components involve lesson planning, microteaching sessions, practice teaching in schools, and other field-based activities. Assignments include written submissions on various topics related to pedagogy and contemporary issues in education. These tasks test students' ability to apply theoretical knowledge in real-life teaching scenarios.
- **Internal Assessment:** Internal evaluation includes class participation, attendance, project work, classroom presentations, and unit tests. These continuous assessments help gauge a student's consistent performance, engagement, and responsibility throughout the academic session.
- **Final Results of the B.Ed. Program:** The cumulative academic performance, as reflected in the final semester results or consolidated mark sheets, represents the overall academic achievement of the student. It includes both theoretical and practical components and serves as a comprehensive measure of success in the B.Ed. program.

### **Medium of Instruction**

The medium of instruction refers to the primary language used for delivering educational content and facilitating communication between teachers and students within the classroom. In the context of B.Ed. (Bachelor of Education) programs, it serves as the linguistic channel through which pedagogical knowledge, teaching strategies, and academic material are transmitted. In this study, the two mediums considered are Hindi and English.

### **Categories of Medium of Instruction:**

- **Hindi Medium:** Students receive instruction primarily in Hindi. This medium is commonly used in many government and regional institutions and is often chosen by students from rural or Hindi-speaking backgrounds.
- **English Medium:** Students are taught primarily in English. This medium is more prevalent in urban settings and private institutions, and is often preferred by students aiming for national or international teaching opportunities.

### **Importance in Educational Research**

Language plays a vital role in cognitive development, comprehension, and academic success. The medium of instruction can significantly influence how students understand educational concepts, engage in classroom interactions, and perform in evaluations. In the context of teacher education—where clear conceptual understanding and effective communication are crucial—the choice of instructional language can greatly affect both academic outcomes and the preparedness of future educators.

### **Role in the Present Study:**

In this research, the medium of instruction is treated as the independent variable. It serves as the basis for grouping the B.Ed. students to examine potential differences in two key dependent variables:

- Teaching Aptitude
- Academic Achievement

By comparing the performance of students in Hindi and English mediums, the study aims to determine whether the language of instruction has a significant effect on their teaching potential and academic success. This comparison is crucial for informing policy decisions, curriculum design, and language support strategies in teacher education programs.

### **Literature Review**

**Kaur (2015)** found that completing the B.Ed. program significantly improves the Teaching Aptitude of both female and male prospective teachers. However, no significant difference was found in the gain scores between female and male teachers after completing the program. **Kumari, Naik, and Savita (2016)** reported that the use of reflective teaching strategies significantly contributes to the development of teaching skills. However, teaching aptitude alone was not found to have a significant influence on the enhancement of these skills, nor did the interaction between reflective teaching strategies and teaching aptitude show any notable effect. In a related study, **Geethadevi and Kalaimathi (2019)** identified a significant impact of gender and locality on the academic achievement of B.Ed. teacher trainees at the 0.01 level of significance, with female and urban trainees outperforming their male and rural counterparts. The study recommends that the government offer enhanced facilities and support to male and rural B.Ed. trainees in order to narrow this performance gap. **Rani (2021)**, using a sample of 60 B.Ed. student teachers (32 boys

and 28 girls), found no significant difference in teaching aptitude between male and female prospective teachers. In contrast, **Sonowal and Kalhotra (2022)** observed a significant correlation between teaching aptitude and various demographic and institutional variables—such as gender, location, type of institution, caste, teaching specialization, and age—among a sample of 300 B.Ed. trainees. **Chaudhary (2022)** revealed that teaching aptitude is influenced by various factors, and there are notable differences based on gender, age, caste, and type of institution. The study also identified gaps in existing research, particularly regarding the impact of language and medium of instruction on teaching aptitude. Future research is suggested to explore these areas further and examine other factors such as socio-economic background and teaching experience. **Singha (2024)** suggests that the majority of B.Ed. trainees exhibit moderate levels of teaching aptitude, with most falling within the "average" and "above average" categories. Gender and residential background were found to have no significant effect on teaching aptitude. However, notable differences emerged with respect to academic stream, as students from the arts stream demonstrated higher levels of teaching aptitude compared to their counterparts from other streams.

### **Objectives of the Study**

- To investigate the effect of the medium of instruction on the teaching aptitude of B.Ed. students.
- To assess the impact of the medium of instruction on the academic achievement of B.Ed. students.

### **Hypotheses of the study**

- There exists no significant difference in the teaching aptitude of B.Ed. students based on their medium of instruction.
- There exists no significant difference in the academic achievement of B.Ed. students based on their medium of instruction.

### **Method**

#### **Research design**

The study employed the descriptive survey method for data collection.

## ● Sample

A sample of 280 B.Ed. students were randomly selected from three teacher training colleges affiliated with Guru Nanak Dev University, Amritsar.

## ● Tool Used

\*The Teaching Aptitude Test (2010), developed by Dr. S.C. Gakhar and Dr. Rajnish, was utilized for assessing teaching aptitude.

\*A self-constructed questionnaire was employed to gather personal information, including details about the medium of instruction.

\*Academic achievement scores of the students were obtained from the University records.

## ● Statistical techniques

Mean, SD and 't' was used for data analysis.

## Results And Discussion

**Hypothesis 1: There is no significant difference in the teaching aptitude of B.Ed. students based on their medium of instruction.**

In order to test this hypothesis, Means, standard deviations (S.D.), and t-values of teaching aptitude of B.Ed. students based on the medium of instruction were calculated as shown in the table 1:

**Table 1: Mean, S.D., and t-value on Teaching Aptitude of B.Ed. Students Based on Medium of Instruction**

Variable	medium of instruction	N	Mean	S. D	t-value	Inference
teaching aptitude	Hindi	110	107.85	22.44	2.79	Significant
	English	170	113.69	24.33		

\*1.96 at 0.05 level \*\*2.58 at 0.01 level

**Table 1** revealed a statistically significant difference between the two groups, with English medium students ( $M = 113.69$ ,  $SD = 24.33$ ) scoring higher than Hindi medium students ( $M = 107.85$ ,  $SD = 22.44$ ). The obtained  $t$ -value of 2.79 exceeds the critical value at the 0.01 level of significance, leading to the rejection of the null hypothesis. Therefore, it is concluded that the medium of instruction has a significant impact on the teaching aptitude of B.Ed. students. The results of the study are in consonance with Rajeeva and Venkatesh (2023) highlighted a significant



difference was found in the teaching aptitude scores of student teachers based on the medium of instruction. Additionally, Amir and Rana (2020) who revealed that B.Ed. students in Semester III exhibited significantly higher teaching aptitude than those in Semester I.

**Hypothesis 2: There is no significant difference in the academic achievement of B.Ed. students based on their medium of instruction.**

In order to test this hypothesis, Means, standard deviations (S.D.), and t-values of academic achievement of B.Ed. students based on the medium of instruction were calculated as shown in the table 2:

**Table 2: Mean, S.D and t-value on academic achievement of B.Ed. students based on the medium of instruction.**

Variable	medium of instruction	N	Mean	S. D	t-value	Inference
Academic Achievem ent	Hindi	110	94.55	14.86	2.42	Significant
	English	170	102.36	21.13		

\*1.96 at 0.05 level \*\*2.58 at 0.01 level

**Table 2** revealed that the mean academic achievement score for Hindi medium students was 94.55 with a standard deviation of 14.86, while English medium students had a higher mean score of 102.36 with a standard deviation of 21.13. The calculated *t*-value of 2.42 exceeds the critical value at the 0.05 level (1.96) but not at the 0.01 level (2.58), indicating a statistically significant difference at the 0.05 level. As a result, the null hypothesis is rejected, suggesting that the medium of instruction has a substantial influence on the academic success of B.Ed. students. Studies support these findings by **Bernhofer and Tonin (2022)** reveal that medium of instruction significantly impacts student performance. Students assigned to a non-native language show reduced academic outcomes, including a higher number of failed attempts, although high language proficiency can partially mitigate this effect. Similarly, **Singh (2017)** indicated that a significant difference exists in the academic achievement of B.Ed. students based on the medium of instruction. Additionally, **Civan and Coşkun (2016)** concluded that instruction in a non-native language negatively affected the academic success of university students, as reflected in lower semester point averages. This negative impact was more pronounced in the first year and persisted

through the fourth year. However, students with merit-based scholarships performed better under non-native language instruction, indicating a mitigating effect of higher academic motivation and ability.

### **Findings**

The findings of the study revealed that

- A significant difference was there in the teaching aptitude of B.Ed. students based on their medium of instruction.
- A significant difference was also observed in the academic achievement of B.Ed. students based on their medium of instruction.

### **Educational Implications**

The findings of the study show the significant influence of medium of instruction on both the teaching aptitude and academic achievement of B.Ed. students. These results carry important educational implications for teacher education institutions and policy makers:

- **Language Support Programs:** Institutions should provide language competency support, particularly for students studying in a non-native language. Bridging language barriers can improve both teaching abilities and academic achievement.
- **Medium-Specific Pedagogical Strategies:** Curriculum design and instructional methods should be tailored to address the linguistic strengths and challenges of students in both Hindi and English medium programs.
- **Inclusive Teacher Training Practices:** Teacher education programs should adopt inclusive teaching strategies that accommodate diverse linguistic backgrounds to ensure all students develop strong pedagogical competencies regardless of their medium of instruction.
- **Faculty Sensitization:** Teacher educators must be sensitized to the potential impact of medium of instruction on student learning and be trained to support students accordingly.
- **Curriculum Bilingualism:** Where possible, bilingual approaches can be adopted to ease the transition for students from different language backgrounds, particularly in key pedagogical subjects.

- **Policy Consideration:** Educational policy makers may consider the medium of instruction as a critical factor in designing equitable and effective teacher education frameworks, ensuring that students are not disadvantaged based on language.

These implications highlight the need of strategically addressing language diversity within B.Ed. programs in order to promote academic achievement and professional preparation among future educators.

### **Conclusion**

In conclusion, the aim of this study was to examine the effect of medium of learning on academic performance and teaching aptitude of B.Ed. students and researcher document a negative impact in terms of marks. The benefits of bilingual education and the increased skill value provided by: y a curriculum is a topic that is educationally important but outside the purview of this investigation. Overall keeping these findings in mind, higher education institution governing bodies shall keep they address the issue of non-native learning and adopt tailored rules percent grade disparities between students from various language origins. NEP 2020 states that teachers will be urged to employ a bilingual approach with pupils whose native languages may differ from the medium of instruction, including bilingual teaching-learning resources. All students will receive high-quality instruction in all languages; one language does not have to be the medium of instruction to be taught and learned effectively.

### **Suggestions for further research**

Based on the findings and scope of the present study, the following suggestions are proposed for further research and educational practice:

- Future studies can be conducted across different states and linguistic regions to examine the influence of various mediums of instruction in diverse cultural and educational settings.
- Long-term studies may be undertaken to observe the sustained impact of medium of instruction on teaching aptitude and academic achievement throughout the B.Ed. program and into professional teaching careers.
- Future research can explore other influential factors such as gender, socio-economic status, intelligence, language proficiency, and motivation to provide a more comprehensive analysis.

- Incorporating qualitative methods such as interviews or focus group discussions with B.Ed. students can provide deeper insight into how language affects learning experiences and self-perceptions as future teachers.
- Studies could compare the effectiveness and accessibility of instructional resources used in different mediums to determine their role in shaping teaching aptitude and academic outcomes.
- Experimental studies can be designed to test the impact of specific language support programs or bilingual teaching strategies on improving teaching aptitude and academic success.
- Future research may assess how medium of instruction influences actual teaching practice during internships or school-based teaching, beyond theoretical knowledge and academic scores.
- Investigations across different subject specializations (e.g., science vs. humanities) could reveal if the effect of medium of instruction varies by content area.

These suggestions aim to enrich the existing body of research and support evidence-based improvements in teacher education, ensuring that language does not become a barrier to professional competence and academic excellence.

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