

Impact of Demographic Variables on the Academic Achievement of Student Teachers

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Abstract: *The present study investigated the impact of demographic variables on academic achievement of student-teachers at Sree Siddaganga B.Ed. College, Tumkur. The descriptive survey method was adopted for the study, and a sample of 91 B.Ed. student-teachers (44, 1st year and 47, 2nd year) was selected through purposive sampling. University examination scores were used to assess academic achievement, and the collected data was analysed using mean, standard deviation and t-test. The findings revealed that no significant differences were found with respect to gender, locality and semester, whereas significant differences were observed in academic level, discipline and medium of instruction. The study emphasizes the need for institutions, policy makers and teacher educators to reduce achievement gaps through improved academic support, bilingual learning resources, and learner-centered practices. Overall, the study contributes to enhancing the quality of teacher education.*

Keywords: Academic achievement, Academic Level, Locality, Discipline, Medium of instruction

1. Introduction

Bachelor of Education (B.Ed.) is a professional teacher training programme of two years duration specially designed to prepare the people for transformative classroom educators for secondary and upper secondary levels. The nature of the B.Ed. program including both theoretical and practical teaching experiences, this indicates that this programme focuses not only on the subject mastery and pedagogical overall knowledge but also on practical skills that are required to be an exceptional classroom leader. The theory part includes educational theory, Psychology, Curriculum development, and specialized courses in technology integration such as ICT and other modern technologies, inclusive education, and understanding different disciplines. (Ahmed & Mohammad, 2025; Lalani, 2023; Padmini & Ramani, 2023) And the Practical experiences comprises of internships and teaching practice which is a core part of the part of the B.Ed. programme, as it helps the student-teachers to develop their classroom management, lesson planning, instructional strategies and effective use of teaching learning materials in a real classroom situation. (Mahdood & Raja, 2024; Ali Begam et al., 2022)

In recent changes, the duration of the programme has been increased with options ranging from one year (NEP), Two year which presently existing in Karnataka and four years integrated degree. The main objective of these reforms is to improve the professional competence and commitment of future teachers in training. The main objective of this program is to cultivate educators and teachers who are dedicated, creative, adaptable, reflective, and capable of meeting the diverse demands of the 21st century classroom (Ahmed & Mohammad, 2025; Lalani, 2023).

The above experiences are provided to the student teachers, and their actual evaluation is demonstrated through academic achievement. Hence the researcher intends to study the impact of demographic variables like academic level (UG or PG), medium of instruction, discipline, locality and gender

on the semester examination marks of second and fourth semester student teachers of Sree Siddaganga B.Ed. College.

2. Review of Related Literature

Some studies have examined the influence of demographic variables on the academic achievement of student-teachers. K B and Sivakumar (2024) reported that academic level (UG and PG) does not have significant influence on academic achievement while gender shows significant effect in which female student-teachers performed better than male student-teachers. Likewise, Aorem Surendra Singh (2024) revealed that the female student-teachers outscored the male student-teachers in terms of academic scores. The studies done by Kaur and Harjinder (2025) showed that the English medium student-teachers had higher academic achievement than the Hindi medium student-teachers. Further, the study of Kumar and Rajendra (2023) revealed that rural B. Ed. Trainees had lower academic achievement than urban student-teachers. Male student-teachers outperformed female student-teachers.

Jeya (2019) studied the effect of discipline, locality, gender and medium of instruction on the academic achievement of B.Ed. trainees and found that only the discipline of the student-teachers had a significant effect on academic achievement and the other variables did not have a significant effect. The review of related literature thus reveals a mixed finding regarding the effect of demographic

variables on the academic achievement of student-teachers. However, whereas academic level seems to have little impact, factors like gender, medium of instruction, locality, and discipline impact differently across studies. Therefore, the present study attempts

to investigate these demographic variables in a wider perspective to find their impact on the academic achievement of student-teachers and to fill the gaps in the existing research.

Objectives of the Study

- 1) To find out whether there is any significant difference in the academic achievement of student-teachers with respect to, Gender: Male / Female Discipline: Science / Humanities Locality: Urban / Rural, Medium of Instruction: Kannada / English, Academic Level: UG / PG .
- 2) To find out whether there is any significant difference in the academic achievement of Second and Fourth semester student-teachers.
- 3) To suggest the institution as well as policy makers to take measures to improve the quality of Teacher education.
- 4) To evaluate the effectiveness of current educational quality of B.Ed. colleges.
- 5) To assist the teacher educators to know their strength and weakness in teaching.

Hypotheses of the Study

- 1) There is no significant difference in academic achievement of B.Ed. Student-teachers with respect to Gender: Male / Female.
- 2) There is no significant difference in academic achievement of B.Ed. Student-teachers with respect to Discipline: Science / Humanities.
- 3) There is no significant difference in academic achievement of B.Ed. Student-teachers with respect to Locality: Urban / Rural.
- 4) There is no significant difference in academic achievement of B.Ed. Student-teachers with respect to Medium of Instruction: Kannada / English.
- 5) There is no significant difference in academic achievement of B.Ed. Student-teachers with respect to Academic Level: UG / PG
- 6) There is no significant difference in the academic achievement of second semester and fourth semester B.Ed. student-teachers.

3. Methodology

Research Method:

The present study employed the **descriptive survey method** to examine the academic achievement of the B.Ed. student-

teachers. This method is appropriate as it allows **systematic collection and analysis of data** to describe the existing performance of the student-teachers.

Sample:

The study included **44, 1st year and 47, 2nd year B.Ed. student-teachers** from **Sree Siddaganga B.Ed. College, Tumkur.**

Sampling Technique:

Purposive sampling technique was used to select the participants, ensuring the sample was relevant and representative for the study.

Tool:

The **University Examination Results** of the student-teachers were used as the primary tool to assess their **academic achievement**, providing an objective and reliable measure of performance.

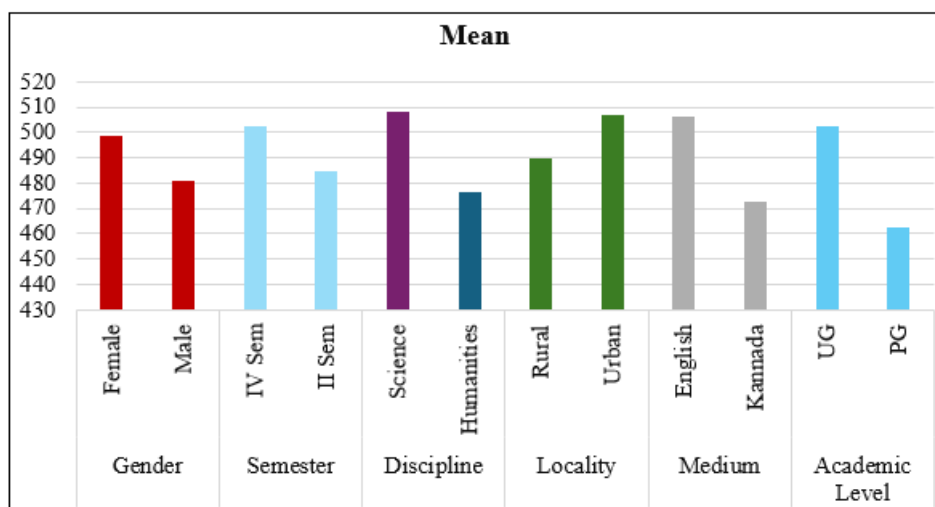
Statistical Technique:

Data from the examination results were analyzed using **mean, standard deviation (SD), and t-test** to interpret the academic achievement of the student-teachers.

4. Findings and Interpretations

Table 1: Mean and Standard Deviation of Academic Achievement of Student-Teachers

Variable	N	Mean	SD
Female	66	498.85	47.43
Male	25	480.68	78
IV Sem	47	502.3	72.67
II Sem	44	484.84	33.55
Science	50	508.36	58.59
Humanities	41	476.17	51.64
Rural	68	489.51	58.54
Urban	23	506.7	53.73
English	58	505.97	57.5
Kannada	33	472.58	51.94
UG	71	502.65	45.79
PG	20	462.65	81.59



Graph: Comparison of Mean scores of Academic Achievement of Student-Teachers

Table 2: N, Mean, Standard Deviation and T-Test Values Of Scores

Variable	t-value	df	Critical Value (0.05)	Critical Value (0.01)	Result
Gender	1.23	89	1.99	2.63	Not Significant
Semester	1.47	89	1.99	2.63	Not Significant
Discipline	2.74	89	1.99	2.63	Significant
Locality	1.23	89	1.99	2.63	Not Significant
Medium	2.75	89	1.99	2.63	Significant
Academic Level	2.85	89	1.99	2.63	Significant

In the present study, an analysis was carried out to examine the impact of demographic variables on the academic achievement of student-teachers. The findings from the above table are interpreted as follows:

In the case of gender, the obtained t-value (1.23) is less than the critical values at both 0.05 and 0.01 levels of significance. Hence the result is not significant and the null hypothesis is accepted.

With regard to the variable semester (II and IV semester), the obtained t-value (1.47) is less than the critical values at both 0.05 and 0.01 levels of significance. Hence, the result is not significant and null hypothesis is accepted.

In terms of discipline of the study, the obtained t-value (2.74) is greater than the critical values at both 0.05 and 0.01 levels of significance. Hence, the result is significant and the null hypothesis is rejected.

With respect to locality, the obtained t-value (1.23) is less than the critical values at both 0.05 and 0.01 levels of significance. Hence, the result is not significant and the null hypothesis is accepted.

The analysis of medium of instruction reveals that the obtained t-value (2.75) is greater than the critical values at both 0.05 and 0.01 levels of significance. Hence, the result is significant and the null hypothesis is rejected.

A comparison based on academic level reveals that the obtained t-value (2.85) is greater than the critical values at both 0.05 and 0.01 levels of significance. Hence, the result is significant and the null hypothesis is rejected.

5. Result

There is no significant difference in academic achievement between Male and Female student-teachers.

There is no significant difference in academic achievement between II and IV semester student-teachers.

There is a significant difference in academic achievement between Science and Humanities student-teachers. Further, the mean scores reveal that Science student-teachers have higher academic achievement than humanities student-teachers.

There is no significant difference in academic achievement between rural and urban student-teachers.

There is a significant difference in academic achievement between English and Kannada medium student-teachers.

Further, the mean scores indicate that English medium student-teachers have higher academic achievement compared to Kannada medium student-teachers.

There is a significant difference in academic achievement between UG and PG student-teachers. Further, the mean scores reveal that UG student-teachers have higher academic achievement compared to PG student-teachers.

6. Discussions

The findings of the present study were examined in relation to existing research to understand the influence of demographic variables on the academic achievement of student-teachers. The results indicate that gender, semester (II and IV), and locality do not significantly influence academic achievement, whereas discipline, medium of instruction, and academic level have a significant impact.

With respect to gender, no significant difference was observed between male and female student-teachers. This aligns with the findings of (Jeya, 2019). However, it differs from the studies of (Aorem Surendra Singh, 2024; K B & Sivakumar, 2024) who reported higher achievement among female student-teachers, and (Kumar & Rajendra, 2023), who found male student-teachers to perform better. Such variations across studies may be attributed to differences in institutional context and sample characteristics. In the present context, the similarity in performance may be associated with equal access to educational opportunities provided to all student-teachers.

A similar pattern was observed in case of semester (II and IV) variable, where no significant difference was found between II and IV semester student-teachers. This may be explained by the uniform curriculum, comparable evaluation methods, and consistent teaching-learning environment maintained across semesters, which ensure similar academic exposure for both groups.

In contrast, discipline emerged as a significant factor influencing academic achievement, with science student-teachers outperforming their Humanities counterparts. This finding is consistent with (Jeya, 2019). A possible explanation lies in the analytical orientation and scientific attitude fostered among science students, which may enhance logical reasoning, problem solving ability and performance in structured assessments.

The analysis of locality revealed no significant difference between rural and urban student-teachers. This findings supports (Jeya, 2019), although it contrasts with (Kumar & Rajendra, 2023), who reported better performance among urban students. The lack of difference in the present study

may be due to similar access to academic resources and learning environments, as many students reside in hostels or come from nearby areas, thereby reducing disparities.

Medium of instruction was found to significantly influence academic achievement, with English medium student-teachers performing better than Kannada medium student-teachers. This result is in agreement with (Kaur & Harjinder, 2025), but differs from (Jeya, 2019), who found no significant difference. One possible explanation is that English medium student-teachers may have greater access to academic materials, reference sources, and instructional support, which are predominantly available in English.

Academic level showed a significant influence, with UG student-teachers scoring higher than PG student-teachers. This findings contrast with (K B & Sivakumar, 2024) who reported no significant difference. The observed variation may be attributed to differences in academic engagement and priorities. PG student-teachers may have additional responsibilities and a stronger focus on career planning and employment opportunities, which could influence their level of involvement in coursework.

Overall, the findings suggest that academic-related variables such as discipline, medium of instruction and academic level play a more influential role in determining academic achievement than demographic variables like gender, semester, and locality.

7. Conclusion

The results of the present study show that the academic achievement of B.Ed. student teachers is more influenced by academic factors than personal factors. No significant difference was found in terms of gender, locality and semester (II and IV semester). There were, however, substantial differences depending on discipline, academic level and medium of instruction. These findings point to both strengths and gaps in the current system of teacher education, particularly with regard to academic support and access to resources. Hence, B.Ed. institutions and policy makers should improve teacher education by providing bilingual learning resources, learner-centred pedagogy, inclusive practices and better academic support systems. To make the student teachers competent future teachers, especially those coming from Kannada medium, Humanities and postgraduate streams, teacher educators should provide remedial teaching, mentoring, enrichment programmes and individualized guidance to improve their academic achievement.

8. Educational Implications

- Educators should create awareness on Kannada resources and use bilingual language in classroom.
- The policy makers should reform the curriculum by including strong learner centered approaches and pedagogical resources and inclusive practices a strong simulation practices and other requirements.
- The institution provides equal access to Kannada medium, post graduate and humanities student teachers.

- The teacher educators should conduct counseling and case study for the individual student-teachers who were very poor in academic performance to find out their difficulties.
- Institutions should give equal importance to both scholastic and co-scholastic activities as students' active participation in co-scholastic activities can improve their participation and academic development.
- Remedial classes should be given to student-teachers who are poor performers in academics to improve their academic performance by the teacher educators.
- Teacher educators should administer diagnostic tests to identify the areas in which student-teachers need support and provide appropriate learning experiences.
- Teacher educators need to use innovative teaching strategies to enhance student-teacher learning experiences and academic achievement.
- To improve academic achievement the institution should provide support to teacher educators through motivational programmes, workshops, academic development activities and professional support initiatives.

9. Future Scope

- If provided the permission from the University, the research can be extended to all the B.Ed colleges of a University.
- Comparative research can be done between the Universities.
- Open-ended questions can be adapted to collect the data and even students can be interviewed.

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