

Effectiveness of Pre-Service Teacher Education Programme

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1. ABSTRACT

Pre-service teacher education programmes are the cornerstone of quality teaching in modern educational systems. They aim to equip trainee teachers with pedagogical knowledge, instructional skills, classroom management abilities, and reflective practices necessary for effective teaching. This study examines the effectiveness of pre-service teacher education programmes in enhancing professional competencies among B.Ed. trainees. Using a quasi-experimental research design with 65 participants, the study evaluates changes in teaching competency, subject knowledge, instructional planning, and reflective practices before and after programme participation. Quantitative findings show significant improvement across all dimensions, while qualitative analysis of reflective journals highlights increased confidence, professional identity, and pedagogical understanding. The study concludes that well-structured pre-service teacher education programmes are highly effective in preparing competent and reflective educators.

2. KEYWORDS

Pre-service teacher education, Teacher competency, Pedagogical skills, Reflective practice, Teaching effectiveness, B.Ed. programme, Professional development, Classroom management, Instructional planning, Feedback.

3. INTRODUCTION

Teaching is one of the most influential factors affecting student learning outcomes. However, the complexity of contemporary classrooms—characterized by diverse learners, new curricula, and technology integration—requires teachers to be both knowledgeable and skilled in pedagogy. Pre-service teacher education programmes are designed to prepare future educators to meet these challenges.

These programmes aim to:

- Develop pedagogical content knowledge
- Build effective teaching skills
- Strengthen classroom management strategies
- Encourage reflective and ethical teaching practices

Pre-service teacher education (PSTE) programmes often combine theory and practice, integrating micro-teaching, lesson planning, internship experiences, and evaluation techniques. Despite their widespread adoption, questions remain about their effectiveness in producing teachers capable of meeting the demands of modern education.

4. NEED AND SIGNIFICANCE OF THE STUDY

4.1 Addressing the Gap Between Theory and Practice

Many trainee teachers report challenges in translating theoretical knowledge into classroom practice. PSTE programmes attempt to bridge this gap, but empirical studies are necessary to confirm effectiveness.

4.2 Enhancing Teaching Competency

Effective teacher preparation is essential for fostering competent, confident educators capable of student-centered instruction.

4.3 Informing Policy and Curriculum Development

Evidence from such studies can help policymakers, teacher educators, and institutions refine B.Ed. and D.El.Ed. curricula.

4.4 Professional and Reflective Development

PSTE programmes aim to develop reflective practitioners who can evaluate their teaching methods critically and adapt to diverse classroom needs.

5. STATEMENT OF THE PROBLEM

“A study on the effectiveness of pre-service teacher education programmes in enhancing teaching competency, reflective practice, and professional readiness of B.Ed. trainees.”

6. OBJECTIVES OF THE STUDY

1. To assess the effectiveness of PSTE programmes in enhancing teaching competency.
2. To evaluate the impact of PSTE programmes on lesson planning and instructional skills.
3. To examine the effect of PSTE programmes on reflective practices of trainees.
4. To study trainee perceptions of programme effectiveness in professional preparation.
5. To provide recommendations for improving pre-service teacher education programmes.

7. RESEARCH QUESTIONS

1. How effective are pre-service teacher education programmes in improving teaching competency?

2. Which areas of teaching skills (lesson planning, instructional delivery, classroom management) show maximum improvement?
3. How do pre-service teachers perceive the usefulness of PSTE programmes in their professional preparation?
4. What role does reflective practice play in enhancing teacher readiness during PSTE programmes?

8. THEORETICAL FRAMEWORK

The study is grounded in the following educational theories:

8.1 Shulman's Pedagogical Content Knowledge (PCK)

Teachers must integrate subject knowledge with pedagogical skills. PSTE programmes aim to develop both content mastery and instructional strategies.

8.2 Kolb's Experiential Learning Theory (1984)

Learning occurs through experience, reflection, conceptualization, and experimentation. PSTE combines classroom learning with practical teaching experiences to foster skill development.

8.3 Schön's Reflective Practice (1983)

Reflection-in-action and reflection-on-action are essential for continuous teacher development. PSTE encourages trainees to maintain reflective journals and evaluate their teaching performance.

8.4 Vygotsky's Social Constructivism (1978)

Collaboration, mentoring, and peer observation within PSTE programmes help trainees co-construct knowledge about effective teaching.

9. REVIEW OF RELATED LITERATURE

Allen & Ryan (1969)

Micro-teaching as part of PSTE enhances instructional skills and classroom confidence.

Darling-Hammond (2010)

Teacher preparation programmes that combine theory with practice produce more competent and reflective teachers.

Clift & Brady (2005)

Pre-service teacher programmes improve reflective abilities, pedagogical knowledge, and lesson planning.

Kaur & Kaur (2019)

Effective PSTE programmes increase classroom management and student engagement skills.

Rao & Reddy (2018)

Structured teacher education programmes significantly enhance trainee confidence and instructional planning.

Remesh (2013)

Skill-based interventions such as micro-teaching and simulated teaching practices improve teaching performance.

Guskey (2002)

Feedback-oriented teacher training is critical for professional skill development.

Amobi (2005)

Reflective journals and peer feedback help trainees internalize effective teaching practices.

Singh & Shankar (2020)

In Indian contexts, B.Ed. programmes improve both pedagogical and practical teaching skills when effectively implemented.

Summary

The literature indicates that well-designed PSTE programmes positively impact trainee teacher competence, reflective ability, and confidence. However, gaps remain in evaluating long-term effectiveness, particularly in Indian teacher education institutions.

10. RESEARCH METHODOLOGY

This study used a quasi-experimental one-group pre-test–post-test design to assess the effectiveness of pre-service teacher education (PSTE) programmes in improving teaching competency and reflective practices.

10.1 Research Design

| Phase | Activities |
|--------------|--|
| Pre-test | Assessment of teaching competency and reflective practice using standardized tools. |
| Intervention | Participation in PSTE programme, including micro-teaching, lesson planning, internships, peer observations, and reflective journals. |
| Post-test | Re-assessment of teaching competency and reflective practices. |

Comparison Statistical analysis to determine effectiveness of PSTE programme.

10.2 Population and Sample

Population:

All pre-service teachers enrolled in the B.Ed. programme at a teacher education institute.

Sample:

65 pre-service teachers (32 males, 33 females) were selected through purposive sampling.

Characteristics:

- Age range: 21–28 years
- Academic backgrounds: Arts, Science, Commerce
- Teaching experience: None (first-year trainees)
- Subjects: Mathematics, Science, English, Social Science

10.3 Variables

- Independent Variable: Pre-service teacher education programme (curriculum, teaching practice, micro-teaching, feedback).
- Dependent Variables: Teaching competency, lesson planning skills, reflective practices, classroom management.
- Controlled Variables: Teaching duration, lesson topics, evaluation criteria, observation procedures.

11. TOOLS AND INSTRUMENTS

11.1 Teaching Competency Rating Scale

- Assessed seven core skills: Introduction, Explanation, Questioning, Reinforcement, Blackboard/Teaching Aid Usage, Classroom Management, Closure.
- 5-point Likert scale: 1 (Poor) to 5 (Excellent).

11.2 Reflective Practice Questionnaire

- Measures trainee reflection on lesson planning, teaching methods, and classroom experiences.

11.3 Observation Schedule

- Structured observation to record classroom behaviour, interaction, and engagement.

11.4 Feedback Forms

- Peer and mentor feedback after micro-teaching sessions.

12. PROCEDURE OF THE STUDY

1. Pre-test:
Each trainee conducted a 6–8 minute teaching session, evaluated using the competency scale and reflective practice questionnaire.
2. Intervention:
Participants underwent eight weeks of structured PSTE programme, including:
 - Micro-teaching cycles
 - Lesson planning exercises
 - Peer observation and mentoring
 - Internship teaching practice
 - Maintaining reflective journals
3. Post-test:
Trainees repeated teaching sessions on similar topics, evaluated using the same tools.
4. Data Compilation:
Scores were tabulated for teaching competency and reflection.

13. STATISTICAL TECHNIQUES

- Mean and Standard Deviation – to compare pre-test and post-test scores.
- Paired Sample t-Test – to test the significance of differences.
- Percentage Improvement – to quantify progress in specific competencies.

14. DATA ANALYSIS

14.1 Teaching Competency Scores

| Teaching Skill | Pre-Test Mean | Post-Test Mean | Improvement |
|---------------------------------|---------------|----------------|-------------|
| Introduction | 2.50 | 4.20 | +1.70 |
| Explanation | 2.40 | 4.15 | +1.75 |
| Questioning | 2.30 | 4.25 | +1.95 |
| Reinforcement | 2.45 | 4.30 | +1.85 |
| Blackboard / Teaching Aid Usage | 2.20 | 4.05 | +1.85 |
| Classroom Management | 2.35 | 4.10 | +1.75 |
| Closure | 2.30 | 4.05 | +1.75 |

| Teaching Skill | Pre-Test Mean | Post-Test Mean | Improvement |
|--------------------|---------------|----------------|-------------|
| Overall Competency | 2.35 | 4.15 | +1.80 |

Interpretation:

- All seven competencies showed significant improvement.
- Maximum improvement: Questioning Skill (+1.95).
- Minimum improvement: Introduction and Classroom Management (+1.70).
- Overall competency increased by 76.5%, indicating strong programme effectiveness.

14.2 Reflective Practice Scores

| Aspect | Pre-Test Mean | Post-Test Mean | Improvement |
|--------------------------|---------------|----------------|-------------|
| Self-Assessment | 2.45 | 4.20 | +1.75 |
| Planning & Preparation | 2.40 | 4.15 | +1.75 |
| Classroom Observation | 2.30 | 4.10 | +1.80 |
| Peer Feedback Analysis | 2.35 | 4.05 | +1.70 |
| Overall Reflection Score | 2.38 | 4.13 | +1.75 |

Interpretation:

- PSTE programme improved reflective skills significantly.
- Trainees demonstrated better self-evaluation, planning, and peer analysis.

15. HYPOTHESIS TESTING

H1: PSTE programme improves overall teaching competency.

- Paired t-test: $t(64) = 15.42, p < 0.01 \rightarrow$ Accepted

H2: PSTE programme enhances reflective practice.

- Paired t-test: $t(64) = 14.35, p < 0.01 \rightarrow$ Accepted

H0: No significant improvement.

- Rejected for both teaching competency and reflective practice.

16. MAJOR FINDINGS

1. PSTE programme significantly enhanced teaching competency.
2. Maximum improvement was observed in questioning and explanation skills.

3. Reflective practices of trainees improved markedly, showing better self-awareness and planning.
4. Classroom management improved but remained slightly lower compared to other skills, possibly due to controlled micro-teaching settings.
5. Trainees reported increased confidence, professional identity, and preparedness for real classroom teaching.
6. Peer and mentor feedback played a crucial role in developing competencies.
7. Overall, pre-service teacher education programmes are effective in preparing competent and reflective teachers.

17. DISCUSSION OF RESULTS

The results demonstrate that pre-service teacher education (PSTE) programmes are highly effective in improving both teaching competencies and reflective practices among trainee teachers. The observed improvements align with the theoretical foundations of experiential learning, reflective practice, and pedagogical content knowledge.

17.1 Improvement in Teaching Competencies

- **Questioning and Explanation Skills:**
The maximum improvement was observed in questioning and explanation skills, consistent with studies by Remesh (2013) and Clift & Brady (2005). Structured lesson planning, repeated practice, and feedback allowed trainees to frame effective questions, sequence content logically, and communicate ideas clearly.
- **Classroom Management and Introduction Skills:**
While both skills improved significantly, the relative improvement was slightly lower. This can be attributed to the controlled nature of micro-teaching and limited exposure to large, real classroom groups.
- **Reinforcement, Blackboard, and Teaching Aid Skills:**
The programme enabled trainees to apply positive reinforcement, improve the use of instructional aids, and manage lesson pacing effectively. Bandura's Social Learning Theory explains how observation, modelling, and feedback enhance these skills.

17.2 Improvement in Reflective Practices

Reflective practice scores increased significantly across all measured aspects:

- **Self-Assessment:** Trainees became more aware of strengths and weaknesses in teaching.
- **Planning and Preparation:** Improved ability to design well-structured lesson plans.

- Classroom Observation: Trainees developed the capacity to notice learner engagement and behaviour.
- Peer Feedback Analysis: Effective use of feedback for self-improvement.

Schön's theory of reflective practice supports these findings, showing that guided reflection promotes professional growth.

17.3 Trainee Perceptions

Qualitative analysis from reflective journals highlighted:

- Enhanced confidence in teaching practice.
- Stronger professional identity and readiness.
- Appreciation of feedback and peer collaboration.
- Recognition of the importance of lesson planning and instructional strategies.

Overall, trainees perceived the PSTE programme as highly effective in preparing them for real classroom challenges.

18. EDUCATIONAL IMPLICATIONS

The study offers several practical implications:

18.1 Curriculum Design

- PSTE programmes should integrate micro-teaching, peer observation, and reflective practice as core components.

18.2 Skill Development

- Multiple cycles of teaching practice allow trainees to master various teaching skills.

18.3 Reflective Practice

- Journals, guided reflection, and peer discussions encourage self-awareness and continuous professional growth.

18.4 Teacher Educator Role

- Mentoring and constructive feedback are critical for enhancing teaching competency.

18.5 Policy Implications

- Teacher education policies should mandate structured PSTE programmes, emphasizing practical skill development and reflective learning.

18.6 Technology Integration

- Video recordings and digital teaching aids can further enhance teaching skill development and self-evaluation.

19. LIMITATIONS OF THE STUDY

1. Sample Size: Limited to 65 trainees from a single institution.
2. Controlled Environment: Some skills, such as classroom management, may differ in real school settings.
3. Duration: Study covered only 8 weeks; long-term impact not measured.
4. Scope: Only seven teaching competencies and reflective practices were evaluated; other skills like assessment literacy and ICT were not included.
5. Quasi-Experimental Design: No control group was used, limiting generalizability.

20. SUGGESTIONS FOR FUTURE RESEARCH

1. Multi-institutional studies with larger samples.
2. Longitudinal studies tracking PSTE impact during school internships.
3. Inclusion of additional competencies: ICT skills, assessment literacy, inclusive teaching.
4. Comparative studies with control groups to validate PSTE effectiveness.
5. Exploration of online and blended PSTE programmes.
6. Mixed-method research combining quantitative assessment and qualitative interviews.

21. CONCLUSION

This study confirms that pre-service teacher education programmes are effective in developing competent, confident, and reflective teachers. Trainees demonstrated significant improvement in:

- Teaching competencies (planning, explanation, questioning, reinforcement, classroom management, teaching aid use, closure)
- Reflective practices (self-assessment, lesson planning, peer feedback analysis, classroom observation)

The structured combination of theory, practice, feedback, and reflection ensures that trainee teachers are prepared to face real classroom challenges.

Teacher education institutions should integrate micro-teaching, internship experiences, peer feedback, and reflective practice systematically to enhance the quality of teacher preparation. Ultimately, effective PSTE programmes contribute to better teaching quality, improved student learning outcomes, and professional teacher development.

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