# A Study on Effectiveness of Self-Reflection Practice on B.Ed. Students in Terms of Enhancing Self-Efficacy

Yogisha S[1], M. C. Yarriswamy[2]
[1]*Research Scholar, Department of Education, Rani Channamma University, Belagavi*
[2]*Professor, Department of Education, Rani Channamma University, Belagavi*

***Abstract*—The present study investigated the effectiveness of self-reflection practices in enhancing self-efficacy among B.Ed. students. In teacher education, self-efficacy plays a vital role in shaping instructional competence, classroom management, persistence, and professional confidence. Self-reflection is considered a powerful pedagogical strategy that enables student-teachers to critically analyze their experiences, beliefs, and instructional practices, thereby fostering self-awareness and professional growth. The study adopted a true experimental research design with a sample of 100 B.Ed. students selected from colleges affiliated to Kuvempu University, Karnataka. The participants were randomly assigned to an experimental group (n = 50) and a control group (n = 50). The experimental group was exposed to structured self-reflection practices such as reflective journaling, guided reflection, peer discussion, and mentor-supported reflection, while the control group followed conventional instructional practices. A standardized self-efficacy scale was administered as pre-test and post-test to both groups. Data were analyzed using independent samples t-test, paired samples t-test, and ANCOVA. The findings revealed no significant difference between the groups at the pre-test stage, confirming baseline equivalence. The control group showed no significant improvement in self-efficacy, whereas the experimental group demonstrated a statistically significant increase in self-efficacy scores. Furthermore, a significant difference was observed between the post-test scores of the experimental and control groups. The study concludes that structured self-reflection practices are highly effective in enhancing self-efficacy among B.Ed. students and recommends their systematic integration into teacher education programmes.**

***Index Terms*—Self-Reflection practice, Self-Efficacy**.

## I. INTRODUCTION

Teacher education aims not only at developing subject knowledge and pedagogical skills but also at nurturing psychological constructs such as confidence, self-belief, and professional identity. Among these constructs, self-efficacy has emerged as a crucial determinant of teaching effectiveness, classroom management, and student engagement. Self-efficacy refers to an individual's belief in their capacity to organize and execute actions required to achieve specific performance outcomes.

Self-reflection has been widely recognized as a powerful pedagogical strategy that enables student-teachers to critically examine their beliefs, instructional decisions, and classroom experiences. Through reflective practices, prospective teachers engage in self-analysis, identify strengths and weaknesses, and develop adaptive strategies for professional improvement. Despite its acknowledged importance, empirical evidence examining the causal impact of self-reflection on self-efficacy among B.Ed. students remains limited. The present study addresses this gap by experimentally examining the effectiveness of structured self-reflection practices in enhancing self-efficacy among B.Ed. students.

## II. REVIEW OF LITERATURE

Previous research highlights a strong relationship between reflective practices and professional competence among teachers. Studies indicate that reflective engagement promotes deeper understanding of teaching processes, enhances decision-making skills, and strengthens confidence in instructional abilities. Reflective journaling, peer reflection, and guided questioning have been shown to support

metacognitive awareness and professional growth among pre-service teachers.

Research on self-efficacy in teacher education suggests that student-teachers with higher self-efficacy demonstrate better instructional planning, persistence in challenging situations, and openness to innovative teaching strategies. Empirical studies further reveal that pedagogical interventions focusing on self-awareness and experiential learning significantly contribute to the enhancement of teacher self-efficacy.

However, most existing studies are correlational in nature, with limited use of true experimental designs. There is a clear need for controlled experimental research to establish a causal relationship between self-reflection practices and self-efficacy outcomes among B.Ed. students. The present study attempts to bridge this methodological gap.

## III. NEED AND IMPORTANCE OF THE STUDY

The contemporary landscape of teacher education demands reflective, confident, and self-regulated professionals capable of responding to diverse classroom realities. B.Ed. students, as prospective teachers, often encounter challenges related to classroom management, instructional decision-making, and professional identity formation. In this context, self-efficacy defined as an individual's belief in their capability to organize and execute actions required to manage prospective situations emerges as a critical determinant of teaching effectiveness. However, traditional teacher preparation programs frequently emphasize content mastery and procedural skills while providing limited structured opportunities for systematic self-reflection that can strengthen these beliefs.

Self-reflection practices enable student-teachers to critically examine their experiences, beliefs, strengths, and limitations. Through reflective journals, portfolios, peer discussions, and guided reflective prompts, B.Ed. students can develop a deeper understanding of their pedagogical actions and learning processes. Such reflective engagement is essential for enhancing self-efficacy, as it helps students recognize successful experiences, reinterpret challenges constructively, and build confidence in their teaching abilities. Without deliberate integration of reflective practices, many student-teachers may complete their training with uncertainty, low confidence, and dependence on external validation.

The need for the present study is further reinforced by the growing emphasis on outcome-based teacher education and competency-oriented curricula. Educational reforms increasingly expect teachers to be autonomous learners, adaptive practitioners, and reflective professionals. Investigating the effectiveness of self-reflection practices provides empirical evidence on whether these practices meaningfully contribute to strengthening self-efficacy among B.Ed. students. Such evidence is essential for curriculum planners, teacher educators, and policy makers to make informed decisions regarding pedagogical strategies in teacher education institutions.

The importance of this study also lies in its potential contribution to improving the quality of teacher preparation. B.Ed. students with higher self-efficacy are more likely to demonstrate innovative teaching, persistence in the face of difficulties, effective classroom management, and positive student engagement during their future teaching careers. By establishing the role of self-reflection in enhancing self-efficacy, the study offers practical insights for designing reflective modules, mentoring systems, and assessment practices within B.Ed. programmes.

The study holds academic significance by addressing a gap in empirical research linking self-reflection practices with self-efficacy in the context of pre-service teacher education. It contributes to the theoretical understanding of reflective learning and social-cognitive development in teachers, while also providing a foundation for further research on reflective pedagogy and teacher empowerment. Thus, the study is both timely and essential for strengthening teacher education and fostering confident, reflective, and competent future teachers.

## IV. OBJECTIVE OF THE STUDY

To study the effectiveness of Self-Reflection practice on B.Ed Students in terms of enhancing Self-Efficacy.

## V. RESEARCH DESIGN

The present study adopted a true experimental research design, which is recognized as the most rigorous approach for establishing cause-and-effect

relationships. This design is characterized by random assignment of participants, deliberate manipulation of the independent variable, and control over extraneous variables. Such features ensure high internal validity and enable attribution of observed outcomes solely to the intervention.

For this study, 100 B.Ed. students were randomly assigned to an experimental group (n = 50) and a control group (n = 50). The independent variable self-reflective practices was systematically implemented only for the experimental group through structured activities such as reflective journaling, guided reflection, peer discussion, and mentor-supported reflection, while the control group received regular instruction.

Both groups were administered pre-tests and post-tests using standardized tools measuring self-efficacy, creative teaching, and teacher identity. Statistical techniques including paired t-test, independent t-test, and ANCOVA were employed to examine the effectiveness of the intervention and to control for pre-test differences. Thus, the study conforms to the essential characteristics of a true experimental design and provides strong empirical evidence on the effectiveness of self-reflective practices among B.Ed. students.

## VI. POPULATION OF THE STUDY

The population of the study comprised all B.Ed. students enrolled in teacher education colleges affiliated to Kuvempu University, Karnataka, during the academic year of investigation. These institutions function under the norms prescribed by the National Council for Teacher Education (NCTE) and cater to student-teachers from diverse academic, social, and cultural backgrounds.

B.Ed. students represent a critical population for the present study, as they are in the formative stage of professional development where self-efficacy, creative teaching skills, and teacher identity are actively shaped through coursework and teaching practice. Since an official consolidated enrolment figure was not publicly available, the population was operationally defined as all student-teachers registered in recognized B.Ed. colleges under Kuvempu University during the period of the study.

## VII. SAMPLING OF THE STUDY

The study employed the simple random sampling technique. From the defined population, 100 B.Ed. students were randomly selected and assigned to experimental and control groups, each consisting of 50 students. This method ensured equal representation and minimized selection bias, thereby strengthening the internal validity of the study.

## VIII. ANALYSIS AND INTERPRETATION OF DATA

Hypothesis 1: There is no significant difference between control group and experimental group pre-test mean scores on Self-Efficacy of B.Ed Students.

Table 1 shows N, Mean, SD and t-value of control group and experimental group pre-test mean scores on Self-Efficacy of B.Ed Students.

| Self-Efficacy | | | | | | |
|---|---|---|---|---|---|---|
| | Group | N | Mean | Std. Deviation | t- value | Significance (0.05 level) |
| Pre test | Experimental | 50 | 103.4600 | 8.69954 | 0.819 | Not Significant |
| | Control | 50 | 104.9000 | 8.87843 | | |

Hypothesis 1 stated that there is no significant difference between the control group and the experimental group in their pre-test mean scores on Self-Efficacy of B.Ed. students. To verify this, an independent samples t-test was conducted using the pre-test scores of both groups. The results show that the experimental group (N = 50) obtained a mean score of 103.46 with a standard deviation of 8.70, while the control group (N = 50) recorded a slightly higher mean score of 104.90 with a standard deviation of 8.88. Although there is a minor difference in the mean values, the calculated t-value of 0.819 is far below the table value of ±1.984 at the 0.05 level of significance. Since the obtained t-value does not exceed the critical value, the difference between the two-group means is statistically not significant at the 5% level. This indicates that, prior to the intervention, the self-efficacy levels of students in the experimental and

control groups were comparable. In other words, both groups started with almost equal levels of self-efficacy, demonstrating that the randomization process was successful and that there was no inherent bias or pre-existing difference in the key variable under study.

The absence of a significant pre-test difference is important for the experimental design because it confirms the equivalence of the groups at the baseline. This strengthens the validity of subsequent comparisons, as any significant changes observed in the post-test can be attributed more confidently to the experimental treatment rather than to initial differences in self-efficacy. Thus, Hypothesis 1 is accepted, affirming that both groups were homogeneous with respect to their self-efficacy levels before the implementation of the intervention.

Hypothesis 2: There is no significant difference between pre-test and post-test mean scores of control group on Self-Efficacy of B.Ed Students.

Table 2 shows N, Mean, SD and t-value of pre-test and post-test mean scores of control group on Self-Efficacy of B.Ed Students.

| Self-Efficacy | | | | | | |
|---|---|---|---|---|---|---|
| | Test | N | Mean | Std. Deviation | t- value | Significance (0.05 level) |
| Control Group | Pre-Test | 50 | 104.9000 | 8.87843 | 0.675 | Not Significant |
| | Post-test | 50 | 106.1000 | 8.89909 | | |

Hypothesis 2 stated that there is no significant difference between the pre-test and post-test mean scores of the control group on Self-Efficacy of B.Ed. students. To examine this hypothesis, the pre-test and post-test scores of the control group were compared using a paired samples t-test. The results reveal that the control group (N = 50) obtained a pre-test mean score of 104.90 with a standard deviation of 8.88, while the post-test mean score increased slightly to 106.10 with a standard deviation of 8.90. Although there is a small numerical increase in mean self-efficacy from pre-test to post-test, the calculated t-value of 0.675 is well below the critical table value of ±1.984 at the 0.05 level of significance.

Since the obtained t-value does not exceed the critical value, the difference between the pre-test and post-test means is statistically not significant. This indicates that the self-efficacy level of the control group did not undergo any meaningful improvement during the study period. The minor increase in mean score can therefore be attributed to normal variation rather than to any deliberate intervention or external influence.

The lack of significant difference confirms that the control group maintained relatively stable self-efficacy levels throughout the duration of the study. This stability is essential for experimental research because it ensures that any significant changes observed in the experimental group cannot be attributed to time, routine academic activities, or external factors affecting all participants equally. Rather, such changes can be more confidently linked to the specific intervention administered only to the experimental group. Thus, Hypothesis 2 is accepted, indicating that there was no significant change in the self-efficacy of the control group between the pre-test and post-test stages.

Hypothesis 3: There is no significant difference between pre-test and post-test mean scores of experimental groups on Self-Efficacy of B.Ed Students.

Table 3 shows N, Mean, SD and t-value of pre-test and post-test mean scores of experimental groups on Self-Efficacy of B.Ed Students.

| Self-Efficacy | | | | | | |
|---|---|---|---|---|---|---|
| | Test | N | Mean | Std. Deviation | t- value | Significance (0.05 level) |
| Experimental Group | Pre-Test | 50 | 103.4600 | 8.69954 | 7.032 | Significant |
| | Post-test | 50 | 114.4600 | 6.83093 | | |

Hypothesis 3 stated that there is no significant difference between the pre-test and post-test mean scores of the experimental group on Self-Efficacy of B.Ed. students. To test this hypothesis, a paired samples t-test was applied to compare the pre-test and post-test scores of the experimental group. The results

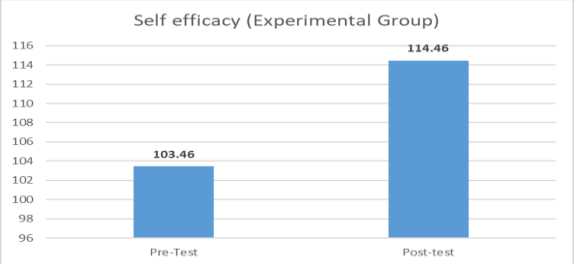
indicate that the experimental group (N = 50) had a pre-test mean score of 103.46 with a standard deviation of 8.70, while the post-test mean score increased substantially to 114.46 with a lower standard deviation of 6.83. This notable increase of approximately 11 points suggests a meaningful improvement in the students' self-efficacy.

The calculated t-value is 7.032, which is far greater than the critical table value of ±1.984 at the 0.05 level of significance. Since the obtained t-value exceeds the table value by a large margin, the difference between the pre-test and post-test scores is statistically significant. This clearly indicates that the intervention administered to the experimental group had a positive and measurable impact on their self-efficacy.

The significant improvement in self-efficacy scores demonstrates that the treatment likely a specific training programme, activity, or instructional strategy was effective in enhancing the confidence, perceived competence, and self-belief of the B.Ed. students. The reduction in standard deviation in the post-test scores also suggests that the intervention not only elevated average self-efficacy but also brought greater consistency among learners.

Therefore, Hypothesis 3 is rejected, and it is concluded that the experimental group exhibited a significant increase in self-efficacy from pre-test to post-test. This result provides strong empirical support for the effectiveness of the intervention used in the study.

Graph shows Mean difference between pre-test and post-test mean scores of experimental groups on Self-Efficacy of B.Ed Students.




The above graph illustrates the mean scores of self-efficacies for the experimental group before and after the intervention. As shown, the pre-test mean score of the experimental group was 103.46, while the post-test mean score increased substantially to 114.46. This noticeable rise of more than 11 points visually represents the improvement in the self-efficacy levels of B.Ed. students following the intervention programme.

The bar graph clearly highlights the effectiveness of the treatment, as the post-test bar is significantly higher than the pre-test bar. The visual trend supports the statistical findings, which showed a significant difference between pre-test and post-test scores of the experimental group. This indicates that the intervention had a positive impact on enhancing students' confidence, perceived competence, and belief in their ability to perform academic tasks effectively.

Thus, the graphical representation reinforces the conclusion that the experimental group experienced a marked improvement in self-efficacy after undergoing the instructional intervention.

Hypothesis 4: There is no significant difference between control group and experimental group post-test mean scores on Self-Efficacy of B.Ed Students.

Table 4 shows N, Mean, SD and t-value of control group and experimental group post-test mean scores on Self-Efficacy of B.Ed Students.

| Self-Efficacy | | | | | | |
|---|---|---|---|---|---|---|
| | Group | N | Mean | Std. Deviation | t- value | Significance (0.05 level) |
| Post test | Experimental | 50 | 114.4600 | 6.83093 | 5.269 | Significant |
| | Control | 50 | 106.1000 | 8.89909 | | |

Hypothesis 4 stated that there is no significant difference between the post-test mean scores of the control group and the experimental group on Self-Efficacy of B.Ed. students. To examine this, an independent samples t-test was applied to compare the post-test scores of both groups. The results show that the experimental group (N = 50) achieved a mean score of 114.46 with a standard deviation of 6.83, whereas the control group (N = 50) recorded a considerably lower mean score of 106.10 with a standard deviation of 8.90. The difference of more than 8 points between the two mean scores indicates a

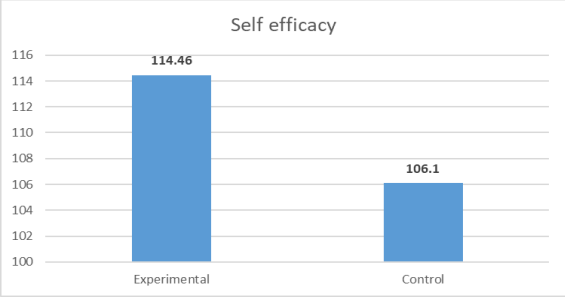
substantial improvement in the self-efficacy of the experimental group relative to the control group.

The obtained t-value is 5.269, which is much higher than the critical table value of ±1.984 at the 0.05 level of significance. Since the calculated t-value exceeds the table value by a wide margin, the difference between the post-test scores of the two groups is statistically significant. This means that the improvement observed in the experimental group cannot be attributed to chance or normal academic activities, but is directly associated with the intervention administered during the study.

The significant difference in post-test scores clearly demonstrates the effectiveness of the treatment provided to the experimental group. While the control group showed only a marginal increase in self-efficacy over time, the experimental group exhibited a marked enhancement, indicating that the intervention had a positive and meaningful impact on their self-belief, confidence, and perceived capability in academic tasks.

Therefore, Hypothesis 4 is rejected, and it is concluded that the experimental group performed significantly better than the control group on the post-test measure of self-efficacy. This finding reinforces the effectiveness of the intervention and validates its role in strengthening the self-efficacy of B.Ed. students.

Graph shows Mean difference between control group and experimental group post-test mean scores on Self-Efficacy of B.Ed Students.




The above graph illustrates the post-test mean scores of self-efficacies for both the experimental group and the control group of B.Ed. students. The experimental group achieved a substantially higher mean score of 114.46, whereas the control group recorded a lower mean score of 106.10. This clear difference in bar heights visually demonstrates that the experimental group outperformed the control group following the intervention.

The noticeable gap between the two bars indicates that the treatment or training programme administered to the experimental group had a positive and significant impact on enhancing their self-efficacy. Students in the experimental group showed greater confidence, improved self-belief, and higher perceptions of their academic and teaching-related capabilities compared to those who did not receive the intervention.

This graphical representation supports the statistical findings from the t-test and ANCOVA analyses, both of which confirmed a significant difference between the two groups' post-test scores. The graph thus reinforces the conclusion that the intervention was effective in boosting self-efficacy among B.Ed. students.

The figure provides visual evidence that the experimental group demonstrated stronger self-efficacy outcomes compared to the control group, validating the effectiveness of the instructional strategy used in the study.

## IX. CONCLUSION

The present study conclusively establishes that self-reflection practices have a significant and positive impact on enhancing self-efficacy among B.Ed. students. The results of the pre-test analysis confirmed that both the experimental and control groups were equivalent in terms of self-efficacy prior to the intervention, thereby validating the effectiveness of the randomization process and strengthening the internal validity of the study. The absence of significant change in the control group between pre-test and post-test further confirms that routine instructional practices alone do not substantially influence the development of self-efficacy.

In contrast, the experimental group exhibited a marked and statistically significant improvement in self-efficacy following exposure to structured self-reflection practices. The substantial increase in post-test means scores, along with a high t-value, clearly demonstrates the effectiveness of the intervention. This finding indicates that reflective activities enabled B.Ed. students to critically evaluate their learning experiences, recognize their instructional strengths, address limitations constructively, and develop greater confidence in their academic and teaching-related abilities.

The significant difference between the post-test scores of the experimental and control groups further reinforces the conclusion that the observed improvement in self-efficacy can be directly attributed to the self-reflection intervention. The graphical representations also provided clear visual support to the statistical results, highlighting the magnitude of improvement in the experimental group.

In conclusion, the study affirms that self-reflection is an essential pedagogical tool for fostering self-efficacy in pre-service teachers. Integrating structured self-reflection practices into B.Ed. curricula can significantly enhance students' confidence, self-belief, and professional readiness. Teacher education institutions are therefore encouraged to embed reflective journals, guided reflection, and mentoring-based reflective activities within coursework and practicum components to prepare confident, competent, and self-directed future teachers. The study also provides a strong empirical foundation for future research on reflective pedagogy and its impact on other professional attributes of teachers.

## REFERENCES


[1] Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.

[2] Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), Self-efficacy beliefs of adolescents (pp. 307–337). Information Age Publishing.

[3] Brookfield, S. D. (2017). Becoming a critically reflective teacher (2nd ed.). Jossey-Bass.

[4] Dewey, J. (1933). How we think: A restatement of the relation of reflective thinking to the educative process. D.C. Heath.

[5] Gibbs, G. (1988). Learning by doing: A guide to teaching and learning methods. Oxford Polytechnic.

[6] Pajares, F. (1996). Self-efficacy beliefs in academic settings. Review of Educational Research, 66(4), 543–578. https://doi.org/10.3102/00346543066004543

[7] Schön, D. A. (1983). The reflective practitioner: How professionals think in action. Basic Books.

[8] Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. Teaching and Teacher Education, 17(7), 783–805. https://doi.org/10.1016/S0742-051X(01)00036-1

[9] Zeichner, K. M., & Liston, D. P. (2014). Reflective teaching: An introduction (2nd ed.). Routledge.