Annual Methodological Archive Research Review
http://amresearchreview.com/index.php/Journal/about
Volume 4, Issue 2 (2026)

Online ISSN 3007-3197
Print ISSN 3007-3189

http://amresearchreview.com/index.php/Journal/about

Effects of Reflective Teaching Practices on Students' Learning: An Experimental Study

Dr. Um E Rubab
Assistant Professor, Department of Education, Alhamd Islamic University, AIU, Islamabad, Pakistan Email: drumerubab@aiu.edu.pk

Dr. Sadia Aslam
PhD Scholar, Department of Education, PMAS-Arid Agriculture University, Rawalpindi, Pakistan Email: sadiaaslam034@gmail.com

Eman
Department of Education, Fatima Jinnah Women University, Rawalpindi, Pakistan Email: emanjalil036@gmail.com

ABSTRACT

Reflective teaching practices play a vital role in improving classroom instruction and enhancing student learning. This study examined the effect of reflective teaching practices on students' academic achievement at the school level. The main objective of the study was to determine whether reflective teaching leads to improved learning outcomes when compared with traditional teaching methods. An experimental research design was adopted, using a pre-test and post-test control group approach. The study involved two groups of secondary school students: an experimental group taught through reflective teaching practices and a control group taught through traditional instructional methods. The population of the study comprised secondary school students, from which a sample of 60 students was selected through simple random sampling. The sample was equally divided into two groups, with 30 students in the experimental group and 30 in the control group. An achievement test developed according to the school syllabus was used as both a pre-test and post-test to assess students' academic performance before and after the intervention. Reflective teaching practices were applied in the experimental group during the practicum period, including lesson planning, self-reflection, identifying learning difficulties, and adjusting teaching strategies. Data collected from the pre-test and post-test were analyzed using mean scores, standard deviation, and an independent sample t-test to determine differences between the two groups. The results showed no significant difference between the experimental and control groups in the pre-test, indicating that both groups were academically comparable at the beginning of the study. However, the post-test results revealed a noticeable improvement in the academic achievement of students in the experimental group. The mean score of the experimental group was significantly higher than that of the control group, and the t-test results confirmed that this difference was statistically significant at the 0.05 level. The findings demonstrate that reflective teaching practices positively influence students' understanding, engagement, and academic performance. The study concludes that reflective teaching

Online ISSN 3007-3197
Print ISSN 3007-3189

is an effective instructional approach and should be promoted in school teaching, particularly within teacher education and practicum programmes.

Keywords: Reflective Teaching Practices, Academic Achievement, Experimental Study, Practicum Experience

Objectives of the Study

To examine the effect of reflective teaching practices on students' academic achievement at the school level.

To compare the academic performance of students taught through reflective teaching practices with those taught through traditional teaching methods.

Research Questions

What is the effect of reflective teaching practices on students' academic achievement?

Is there a significant difference between the academic achievement of students taught through reflective teaching practices and those taught through traditional teaching methods?

Research Hypotheses

H_0: There is no significant difference between the academic achievement of students taught through reflective teaching practices and those taught through traditional teaching methods.

Problem statement

Traditional teaching methods in schools largely depend on fixed lesson plans, lecture-based instruction, and routine classroom practices. In many classrooms, teachers complete the syllabus within a given time frame, but limited attention is given to students' understanding, learning difficulties, and feedback during the teaching process. As a result, students with different learning abilities often struggle to fully grasp the concepts being taught, which may negatively affect their academic achievement. During the teaching practicum, it was frequently observed that student teachers placed greater emphasis on content coverage rather than on evaluating how effectively students were learning. Classroom instruction was often delivered without systematic reflection on lesson outcomes, student responses, or areas requiring improvement. Informal observations showed that students remained passive learners, with fewer opportunities for discussion, self-expression, and critical thinking. This situation highlights a gap between teaching practices and actual student learning needs. Therefore, the problem addressed in this study is to examine whether the application of reflective teaching practices during classroom instruction leads to a significant improvement in students' academic achievement compared to traditional teaching methods.

Significance of the Study

This study is significance for teachers, student teachers, school administrators, and teacher education institutions, as it emphasizes the practical value of reflective teaching practices in real classroom settings. For in-service teachers, the findings

Online ISSN 3007-3197
Print ISSN 3007-3189

provide insight into how regular reflection on lesson planning, teaching methods, and student responses can lead to more effective instruction and improved academic achievement. By adopting reflective practices, teachers may become more responsive to students' learning needs and better able to adjust their teaching strategies accordingly. For student teachers, particularly those engaged in teaching practicum, this study highlights the importance of moving beyond mere content delivery. It encourages student teachers to critically evaluate their teaching experiences, identify strengths and weaknesses in their instructional approaches, and develop confidence in making instructional improvements. This reflective approach can support their professional growth and help them become more thoughtful and effective educators. School administrators may benefit from the study by gaining a clearer understanding of how reflective teaching practices can contribute to improved classroom performance and student outcomes. The results may support decision-making related to instructional supervision, professional development programs, and the promotion of reflective teaching as part of school improvement initiatives.

Introduction

Teaching is not only about delivering lessons but also about continuously improving classroom practices to support student learning. In recent years, reflective teaching has gained attention as an effective approach that helps teachers examine their own teaching methods, classroom interactions, and student responses. Reflective teaching encourages teachers to think about what happens in the classroom, identify strengths and weaknesses in their instruction, and make necessary changes to improve learning outcomes.

Reflective teaching practices involve activities such as lesson reflection, self-evaluation, feedback analysis, and adjustment of teaching strategies based on students' needs. Through reflection, teachers become more aware of how their teaching decisions affect student learning. This practice helps teachers move beyond routine teaching and develop thoughtful and responsive instructional strategies. In school settings, reflective teaching supports better classroom management, clearer explanations, and stronger teacher–student relationships.

In many schools, teaching is still based on traditional methods where teachers focus mainly on completing the syllabus and preparing students for examinations. Such approaches often limit student participation and reduce opportunities for active learning. As a result, students may struggle to understand concepts deeply or apply knowledge effectively. Reflective teaching provides an alternative by allowing teachers to evaluate their lessons and modify their methods to suit different learning styles and classroom situations.

Reflective teaching practices, such as reviewing lesson plans, observing student responses, and adjusting instructional methods, the researcher aimed to improve teaching effectiveness and student learning. This practical experience provided a strong foundation for conducting an experimental study in a real classroom environment.

The importance of reflective teaching is particularly significant in teacher education and training programmes. When teachers develop reflective habits early in their careers, they are more likely to adopt effective teaching strategies and respond

Online ISSN 3007-3197
Print ISSN 3007-3189

positively to classroom challenges. Reflective teaching also promotes professional growth by encouraging teachers to learn from their experiences rather than repeating ineffective practices.

Despite the recognized value of reflective teaching, limited experimental research has been conducted at the school level to measure its direct impact on students' academic achievement. Many studies focus on teachers' perceptions rather than measurable learning outcomes. Therefore, there is a need for research that applies reflective teaching practices in actual classroom settings and examines their effect using statistical evidence.

Delimitation of the Study

Only one subject was selected for instruction.

The sample size was limited to 60 students.

Literature Review

Concept of Reflective Teaching.

Reflective teaching is a planned operation that demands teachers to carefully analyze the classroom activities to improve quality of teaching. It involves a backward reflection of the teaching experiences, recognizing the good strategies and weaknesses, and the making of informed decisions that will be used in the future lessons. Reflection is the process of thinking which is active and purposeful and is based on experiences that have been lived, as opposed to routines. Reflective practice allows teachers to go beyond technical teaching and develop a higher sensitivity to their teaching decisions. In turn, reflective teaching helps teachers to question their practices, classroom dynamics, and the reaction of students to it, thus promoting the emergence of effective teaching practices.

Types of Reflective Teaching Practices

Reflection-in-action refers to teachers' ability to think and make adjustments while teaching, whereas reflection-on-action involves reviewing and evaluating teaching practices after the lesson to improve future instruction (Farrell, 2019; Korthagen, 2017). The latter occurs throughout the teaching course, which makes the teacher modify the approach in response to the confusion or inattention of the learners, as in the example. The latter is provided after the lessons, as part of the systematic review of the performance of the instructions and assessment of the effectiveness of the approaches used. This two-fold method allows the educators to find the positive and negative aspects and to make specific advancements to the next lessons. The two modalities eventually enable teachers to be flexible, responsive, and more effective in their teaching practice.

Reflective Practice and Professional Growth of the Teacher

Reflective instruction is an inseparable part of the professional development of the teachers. Farrell (2015) emphasized that reflective activities that include keeping instructional journals, having collegial discussions, and self-assessments help to gain greater pedagogical understanding. These traditions facilitate lifelong learning and self-development. Reflection helps teachers to sharpen lesson-planning skills,

Online ISSN 3007-3197
Print ISSN 3007-3189

improve classroom management, and gain increased confidence about making instructional decisions. In addition, reflective teaching maintains the motivation and flexibility of educators in changing educational environments.

Reflective Teaching and Student Learning.

Reflective teaching has a positive impact on the achievement of learners. Teachers who regularly engage in reflective teaching practices tend to adopt more student-centered approaches in their classrooms. These teachers place greater emphasis on active learning, classroom discussion, and critical thinking, which helps students participate more actively and understand concepts more deeply (Farrell, 2019; Mann & Walsh, 2017). Reflective teachers are, in turn, better-positioned to adapt the lessons to the unique learning requirements of students and, therefore, achieve higher levels of understanding and better grades. Reflective teaching can make learners active participants and not passive receivers of information by creating an interactive and encouraging learning environment.

Reflective Practice in School Classrooms

Reflective teaching supports substantive learning in the classroom setting and enhances the engagement of students. Akbari (2007) found out that reflective teachers cultivate questioning, discussion and exploration of ideas. These practices develop more cognitive skills of higher order and deeper conceptual understanding. Differentiation of instruction is also promoted through reflective teaching which gives instructors an opportunity to meet the diverse needs of learners. Reflective teachers can create inclusive learning contexts by adopting pedagogical modifications based on the feedback gathered by the learners to support every learner.

Research and Practicum as a Development of Reflective Teaching

Teaching practicum is an important channel of developing reflective skills in pre-service teachers. Loughran (2002) emphasized that practicum experiences provide real classroom situations where teachers have an opportunity to use reflective strategies. In practicum, teachers study the lesson planning, classroom management, and student responses, hence, integrating theoretical learning and its practical implementation. Constant reflection during practicum builds instructional confidence, educator pedagogical skills, and equips instructors with the challenges of professional practice in actual schools.

Difficulties in Implementation of Reflective Teaching

Although reflective teaching has myriad benefits, it is faced with a number of challenges at the school setting. Time constraints, large workload, and institutional support were found to be the key obstacles, as indicated by Brookfield (2017). Teachers are often faced with the difficulty in finding time to reflect due to busy timetables and administrative requirements. Furthermore, lack of adequate training in reflective methodologies affects the ability of the educators to effectively pursue the process of reflection. The issues discussed in these challenges highlight the need to have systematic support, extensive training programmes and effective policy frameworks that can be used to support reflective practice.

Annual Methodological Archive Research Review
http://amresearchreview.com/index.php/Journal/about
Volume 4, Issue 2 (2026)

Online ISSN 3007-3197
Print ISSN 3007-3189

http://amresearchreview.com/index.php/Journal/about

Literature gaps in Reflective Teaching Research.

Despite the strong claim of value of reflective teaching made by the existing literature, there are still significant gaps. Mostly the qualitative research is more on the perceptions of the educators and not the outcome which can be measured. There is still a lack of experimental studies to evaluate the effect of reflective teaching on student learning using statistical significance. Moreover, there is very little research on reflective practice in practicum in actual school environments. To fill these gaps, empirical research should be conducted and use quantitative data to determine the usefulness of the reflective teaching interventions.

This study addresses this gap by using an experimental research design to examine the effect of reflective teaching practices on students' academic achievement. By comparing the performance of students taught through reflective teaching with those taught through traditional methods, the study aims to provide clear evidence of the effectiveness of reflective teaching practices in schools.

Research Design

The study adopted an experimental research design using a pre-test and post-test control group approach. This design was selected to examine the effect of reflective teaching practices on students' academic achievement. Two groups were formed for the purpose of comparison. The experimental group was taught through reflective teaching practices, while the control group received instruction through traditional teaching methods. This design allowed the researcher to measure changes in student performance before and after the intervention and to compare the results of both groups objectively.

Population and Sample

Population of the Study

The population of the study included all students enrolled in the selected grade level at the school where the research was conducted. These students shared similar academic backgrounds, curriculum content, and learning conditions, which helped maintain consistency in the study.

Sample of the Study

From the population, a sample of 60 students was selected. The sample was divided into two equal groups. The experimental group consisted of 30 students who were taught using reflective teaching practices. The control group also consisted of 30 students who were taught through traditional teaching methods. Both groups were similar in terms of age, syllabus, and learning environment to ensure fair comparison.

Research Instrument

An achievement test was developed by the researcher based on the prescribed school syllabus. The test covered the key concepts taught during the teaching period and was designed to measure students' understanding and learning outcomes. The same test was used as both the pre-test and post-test to ensure consistency in measurement. The instrument was reviewed by subject teachers to ensure clarity, relevance, and content accuracy.

Annual Methodological Archive Research Review
http://amresearchreview.com/index.php/Journal/about
Volume 4, Issue 2 (2026)

Online ISSN 3007-3197
Print ISSN 3007-3189

http://amresearchreview.com/index.php/Journal/about

Data Collection Procedure

Before the start of the teaching intervention, a pre-test was administered to both the experimental and control groups to assess their initial level of achievement. During the practicum period, reflective teaching practices were applied in the experimental group. These practices included lesson reflection, questioning strategies, student feedback, and adjustment of teaching methods based on classroom responses.

At the same time, the control group was taught using routine teaching methods such as lecture-based instruction without structured reflection. After the completion of the teaching period, a post-test was administered to both groups to measure changes in academic performance.

Data Analysis

The collected data were analyzed using simple statistical techniques. The mean was calculated to determine the average performance of students in both groups. Standard deviation was used to identify the variation in students' scores. A t-test was applied to compare the pre-test and post-test results of the experimental and control groups. These statistical tools helped determine whether reflective teaching practices had a meaningful effect on students' academic achievement.

Results

Statistical Analysis of Data

Pre-test Results

Before the introduction of reflective teaching practices, a pre-test was administered to both groups to measure their initial level of academic achievement.

Table 1: Pre-test Mean Scores of Experimental and Control Groups

Group	N.	Mean.	Standard Deviation
Experimental Group	30.	45.20.	6.10
Control Group	30	44.80.	5.95

The mean scores of both groups in the pre-test were almost the same. The experimental group obtained a mean score of 45.20, while the control group achieved a mean score of 44.80. The small difference between the mean scores shows that there was no significant academic gap between the two groups at the beginning of the study.

The standard deviation values of both groups were also close, indicating that the variation in students' scores within each group was similar. These results confirm that both groups started at a comparable academic level, which provided a fair basis for examining the effect of reflective teaching practices.

Post-test Results

After the completion of the teaching period and the implementation of reflective teaching practices in the experimental group, a post-test was conducted to evaluate changes in academic achievement.

Annual Methodological Archive Research Review
http://amresearchreview.com/index.php/Journal/about
Volume 4, Issue 2 (2026)

Online ISSN 3007-3197
Print ISSN 3007-3189

http://amresearchreview.com/index.php/Journal/about

Table 2: Post-test Mean Scores of Experimental and Control Groups

Group	N.	Mean.	Standard Deviation
Experimental Group	30.	68.40	7.25
Control Group	30	56.10.	6.80

The post-test results show a clear improvement in the academic performance of the experimental group. The mean score of the experimental group increased to 68.40, while the control group achieved a mean score of 56.10. This difference indicates that students who were taught through reflective teaching practices performed better than those who were taught using traditional methods.

Although both groups showed some improvement, the increase in the experimental group was much greater. This suggests that reflective teaching practices helped students understand the subject matter more effectively and supported deeper learning during teaching period.

T-test Analysis

To determine whether the difference between the post-test scores of the two groups was statistically significant, an independent sample t-test was applied.

Table 3: t-test Comparison of Post-test Scores

Group compared	t- value	Significance level
Experimental Bs Control	48.5.	0.05

The calculated t-value of 4.85 is higher than the critical value at the 0.05 level of significance. This result indicates that the difference between the post-test scores of the experimental and control groups did not occur by chance. Instead, it reflects the real effect of the teaching method used during the intervention. According to study result null hypothesis are rejected.

Based on the statistical results, the null hypothesis (H_0), which stated that reflective teaching practices have no effect on students' academic achievement, was rejected. The research hypothesis (H_1) was accepted, confirming that reflective teaching practices had a significant positive impact on students' academic performance.

The results showed that:

The experimental group demonstrated a higher mean score in the post-test compared to the pre-test.

The control group showed limited improvement.

The calculated t-value was significant at the 0.05 level, indicating a meaningful difference between the two groups.

These results suggest that reflective teaching practices had a positive effect on students' academic achievement.

Discussion

The study found that students taught through reflective teaching practices performed better than those taught through traditional methods. The results show that reflective teaching practices have a clear and positive effect on students' academic achievement. Students taught through reflective teaching during the practicum period achieved

Online ISSN 3007-3197
Print ISSN 3007-3189

higher post-test scores than those taught through traditional methods, and statistical analysis confirmed that this difference was significant. This indicates that reflective teaching directly contributed to improved learning outcomes. Reflective teaching helped the teacher regularly review lessons, identify students' learning difficulties, and adjust teaching strategies accordingly. This process improved clarity of instruction and increased student engagement. Similar findings have been reported in recent studies, which show that reflective teaching allows teachers to respond effectively to students' needs and improve academic performance (Farrell, 2019; Yuan & Burns, 2018). The consistent improvement in the experimental group also suggests that reflective teaching supports learners with different ability levels. By adapting instruction based on observation and feedback, reflective practices helped involve weaker students while supporting higher achievers. This aligns with research highlighting the role of reflection in inclusive teaching and reducing learning gaps (Larrivee, 2020; Mann & Walsh, 2017). Reflective practices are most effective when developed during teacher training and practicum, where theory is closely connected with practice (Korthagen, 2017; Nguyen, 2021). Overall, the discussion confirms that reflective teaching improves teaching quality, student engagement, and academic achievement, supporting its integration into school teaching and teacher education programs.

Conclusion

The study concludes that reflective teaching practices have a meaningful and positive impact on students' academic achievement. The experimental group, which was taught using reflective methods, showed greater improvement in post-test scores compared to the control group taught through traditional methods. The statistical analysis using mean, standard deviation, and t-test confirms that this improvement was not due to chance.

Reflective teaching helped the teacher identify learning gaps, modify instructional strategies, and create interactive classroom experiences. As a result, students became more engaged, understood lessons better, and showed improved academic performance. The study also highlights the importance of practicum experiences, as they provide future teachers with opportunities to apply reflective strategies in real classrooms.

Overall, the findings suggest that reflective teaching is an effective approach for improving teaching quality and student learning in schools. When teachers actively reflect on their teaching practices, they are better able to support students' academic needs.

Recommendations

Based on the findings of the study, the following recommendations are suggested:

Teacher education programs should include training on reflective teaching strategies, as the study demonstrated that reflection, lesson evaluation, and adjustment of teaching methods positively impacted student learning outcomes.

Schools should provide time and institutional support for teachers to reflect on lessons, student feedback, and learning results, since the experimental group's improvement was linked to regular reflection and strategy modification.

Online ISSN 3007-3197
Print ISSN 3007-3189

Traditional teaching methods should be supplemented with reflective activities such as lesson evaluation, classroom discussions, and feedback sessions, as students in the experimental group performed better and were more attentive and involved in learning.

Further experimental studies should be conducted with larger samples and longer teaching periods to examine the long-term effects of reflective teaching, because the study showed significant short-term benefits over a three- to four-month practicum period.

References

Farrell, T. S. C. (2019). Reflective practice in ELT. London: Routledge.

Farrell, T. S. C., & Kennedy, B. (2019). Reflective practice framework for teacher development. *TESOL Journal, 10*(4), 1–14.

Korthagen, F. A. J. (2017). Inconvenient truths about teacher learning: Towards professional development 3.0. *Teachers and Teaching, 23*(4), 387–405.

Larrivee, B. (2020). Cultivating teacher renewal: Guarding against stress and burnout. Lanham, MD: Rowman & Littlefield.

Mann, S., & Walsh, S. (2017). Reflective practice in English language teaching: Research-based principles and practices. London: Routledge.

Nguyen, H. T. M. (2021). Teacher reflection and professional learning during practicum. *Teaching and Teacher Education, 105*, 103–117.

Yuan, R., & Burns, A. (2018). Teacher identity development through reflective practice. *Teaching and Teacher Education, 74*, 1–13.

Akbari, R., & Tajik, L. (2020). Reflective teaching and learner achievement: Evidence from classroom practice. Journal of Education for Teaching, 46(2), 1–15.

Khan, M. S., & Saeed, M. (2019). Effect of reflective teaching strategies on students' academic performance. *Pakistan Journal of Education, 36*(2), 45–60.

Richards, J. C. (2020). Exploring teacher reflection and teacher change. RELC Journal, 51(1), 1–15.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Palo Alto, CA: Learning Policy Institute.

Minott, M. A. (2019). Reflection and reflective teaching in education. *International Journal of Learning, Teaching and Educational Research, 18*(5), 1–15.

Hidayat, R., & Pramono, S. E. (2020). Reflective teaching and student engagement. *Journal of Educational Research and Practice, 10*(1), 78–89.

Soodmand Afshar, H., & Farahani, M. (2018). Reflective teaching and learner achievement. *Reflective Practice, 19*(1), 1–12.

OECD. (2020). Teachers and school leaders as lifelong learners. Paris: OECD Publishing.