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Effective Teaching Methods in Practical Environments: Impact on Students' Performance in Azad Jammu and Kashmir Primary Schools

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ABSTRACT

This study examines the effect of practical teaching on the academic performance of students of primary schools of Azad Jammu and Kashmir (AJK). The paper looks at the efficiency of STEM, based teaching techniques and how student learning through hands, on work, project, based activities, and experiential learning affects student motivation and achievement. A quantitative method was used to gather information from 150 students and 10 teachers of five public primary schools in Tehsil Khouiratta, District Kotli. The results showed that even though practical teaching methods were frequently used, student motivation was very low as indicated by the average score of 2. 17. The regression analysis gave the result that practical teaching methods explained 37% of student performance variation, however, the connection was not statistically significant. The analysis show that practical teaching methods definitely have the major impact on the student's learning outcomes, however, the student's motivation should be further developed in order to achieve the highest level of academic performance.

Keywords: *Practical Teaching Methods, STEM Education, Student Motivation, Student Performance, Primary Education, Azad Jammu and Kashmir, Hands-On Learning, Experiential Learning, Project-Based Learning*

INTRODUCTION

Teaching in real-world practical settings means using hands-on, collaborative, and student-oriented methods that encourage active learning and problem-solving in the real world. These types of methods were very important to maintain students' interest, motivation, and performance well in school. In Azad Jammu and Kashmir (AJK), where educational challenges include limited resources, cultural diversity, and socio-economic challenges, the role of practical teaching methods becomes even more important.

The researcher maintains that the primary school level was the foundational stage where student performance was shaped for future academic success. In the context of Azad Jammu and Kashmir (AJK), the quality of primary schooling in many cases depends on the teaching strategies used in the classroom. The researcher observed that old, teacher-centered methods were common, which usually obstruct the conceptual development of young learners. In his analysis, Brophy (2006) emphasizes that classroom management and proactive teaching are the key to producing a learning environment where primary students are eager to work and learn. The study points to a situation where the teacher changes are not in line with the students' evolving needs; hence, the whole learning process and the results stay at the same level without improvement.

The author, however, goes on to argue that the emphasis on STEM, based and practical learning was a mainstay in the present, day primary education. The phrase of this idea is Hattie (2009), who discovers that students' learning outcomes on instruction are much more visible and active, whereas students show limited gains when the instruction is passive. To the researcher's mind, the introduction of hands, on tasks helps to solve the problem of the gap between the students comprehension and the abstract concepts. According to Kelley and Knowles (2016), the combined method of science and mathematics at the level of primary school encourages students to develop critical thinking skills. The author insists that for the teaching staff to give their students high scores in academic performance, they themselves have to be equipped with modern pedagogical tools and techniques.

Following Skinner's (1953) behavioral psychology, the main work of the students' development was done through a positive feedback cycle from their practical achievements. The present study will be a well, documented exposition of these strategies employed in the primary school a school in the Kotli district.

The study primarily explored the influence of hands, on teaching methods on student achievement, which was interpreted as the following dimensions: behavior management, lesson plans, classroom management, flexibility in teaching, and learning environments that inspire students. Rooted in theoretical frameworks, the researcher put forward that Deci and Ryans Self, Determination Theory and Banduras Social Learning Theory Account for the major factors that determine the teacher's behavior and student motivation. The focus of the study was on the effect of these methods on the academic performance of students and their motivation in the primary schools of AJK.

The study addressed the following questions:

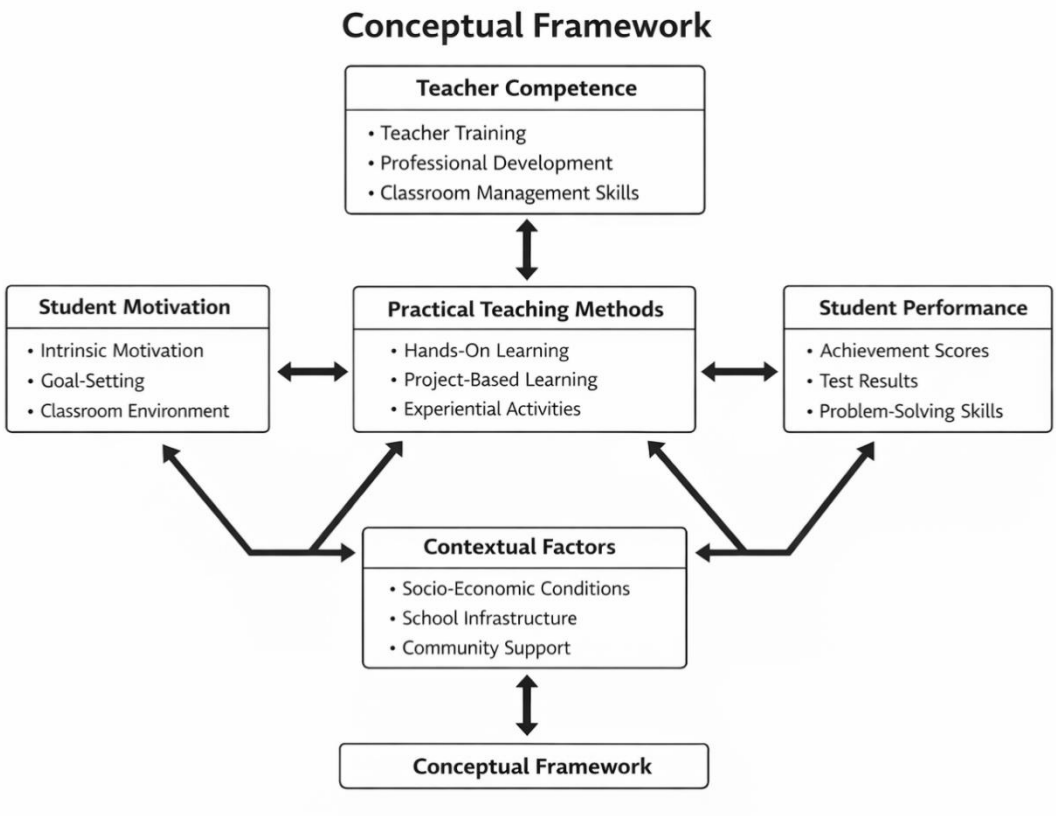
1. How much do practical teaching methods get used at AJK Primary School?
2. What was the level of student performance and motivation in these schools?
3. What was the impact of practical teaching methods on students' performance?

This research is very important for improving the quality of education and student achievement in elementary schools of Azad Jammu and Kashmir (AJK). The area is grappling with a number of educational issues such as shortage of resources, cultural diversity and poverty. Therefore, it is vital to seek out teaching methods that would be a real benefit to the students performance. Here the author focuses on concrete teaching methods and thus his work is very relevant and useful for educators by showing how hands, on learning and interactive teaching will not only improve academic performance but also boost the students desire to learn in their primary education. As a matter of fact, the results are really important since they reveal to teachers and educators the scientific grounds of study for experiential learning which involves students in a lively way and stimulates them to think critically.

Besides, it is a matter of concern of great magnitude for the political makers in AJK since the findings of this research can serve as a basis for them to make decisions that the use of practical teaching methods at primary school level should be made a part of the curriculum. By proving that these methods are effective the research persuades the authorities to train teachers in these methods and treasures to take steps supporting their implementation. Furthermore, the results of the study are very useful for the developers of the curriculum who will find in them a pattern for the modification of the primary education system in such a way that it incorporates more project, based learning, hands, on experiments, and real, world applications which are all the main factors in the development of the student, learning outcomes. This research is a critical contribution in the larger educational research context as it investigates practical teaching methods in a resource, poor rural environment, a topic that has not been sufficiently studied so far. The study thus sheds light on a topic that is relevant and can be successfully applied not only in AJK but also other areas which are socio, culturally and economically similar. It promotes local educational strategies.

Hence, this investigation adds to the ongoing debate on the ways to increase student motivation and involvement in academic activities through dynamic, student, centered, and learning, focused classrooms. The research highlights the potential of practical teaching methods to positively influence student motivation, academic achievement, and overall learning pathways over time. Besides that, it opens up the avenue for further exploration of teaching methods in less developed rural areas, thus giving a roadmap to studies seeking to evaluate the wider influence of experiential learning in various educational environments. Briefly, the investigation is highly crucial to educators, policymakers, and academicians as it not only provides practical strategies to elevate primary education in Azad Jammu and Kashmir but also keeps the conversation going in the global arena regarding education improvement in resource, limited situations.

Conceptual Framework



LITERATURE REVIEW

Theoretical Foundations of Practical Teaching Methods

Educational psychology has provided various core theories that illustrate how innovative teaching approaches result in enhanced student achievement. Experiential learning theory (ELT) which was initially proposed by Kolb and later developed by other scholars is based on the idea that learning is most effective when students participate in activities that require them to reflect, conceptualize and apply their knowledge practically (Smith & Thompson, 2022). Although ELT has been predominantly implemented in tertiary education, its importance to primary education has been a focus of new studies (Smith & Thompson, 2022). According to this theory, children comprehend new information more effectively when they are given the opportunity to handle real objects and do activities related to the world around them, hence practical teaching methods are very crucial in the early stages of schooling.

A child's intellectual growth in primary education is mainly dependent on his/her ability to perform concrete operations. Thus, learning through experiences and under the guidance of the teacher fits a child's developmental stage (Ahmed & Khan, 2023). According to Piagetian theories, it is through exploration and the use of various senses that children develop an understanding of their world, thus, practical methods are justified for the lowest grades (Ahmed & Khan, 2023). This developmental perspective goes along with the idea that traditional lecture discussion methods in primary classrooms cannot alone be considered adequate to facilitate comprehension at a deeper level.

Practical Teaching Methods and Conceptual Understanding

Several recent studies have been centred on the impact of practical approaches on student comprehension of core concepts. For instance, in the field of mathematics education, the use of hands, on manipulatives such as geometric solids, fraction blocks, and measurement tools has been found to significantly improve students' grasp of abstract concepts (Oladayo & Diri, 2024). In this quasi, experimental study, the students who were given the manipulatives had higher scores than the control group in the immediate post, tests and the delayed retention tests, thus practical engagement facilitates not only the acquisition of mathematical ideas but also their long, term memory.

Also, in science education, the adoption of inquiry, based and experimental methods in which students are engaged in conducting simple experiments, making observations, and drawing conclusions has been linked to higher levels of students' achievement as compared to the traditional textbook, based teaching (Hasan & Latif, 2022). Students participating in practical science activities showed greater competence in making hypotheses, planning experiments, and analyzing data, which is an indication that the practice of science leads to conceptual understanding more than just listening (Hasan & Latif, 2022). This is in line with the general international research which is always showing that practical involvement in science not only leads to the retention of knowledge but also the development of scientific thinking skills (Lee & Park, 2021).

Engagement, Motivation, and Classroom Dynamics

Practical teaching environments affect not only achievement scores but also student attitudes and engagement. Putri et al. (2025) carried out a mixed methods study revealing that experiential learning strategies led to an increase in students' motivation and willingness to participate in the primary classroom. Students indicated that they found the practical activities to be more fun and connected to their real life, which made them more attentive and willing to put in the effort in the lesson (Putri et al. , 2025). The teachers also noticed in this study that there were less disruptive students' behaviors and more learners' cooperation during practical activities.

Other studies emphasize the role of emotions and feelings in learning. As an illustration, Farooq and Ghani (2023) demonstrated that students who engaged in hands, on activities had a higher sense of self, efficacy and problem, solving skills, especially the students who were having difficulties in a traditional classroom setting. This increase in self, confidence was a major contributor to academic achievement, which is an indication that practical teaching approaches can help students overcome academic anxiety and become more resilient to learning.

Comparative Studies: Practical vs. Traditional Methods

Comparative research has mainly focused on assessing the relative effectiveness of practical teaching methods in contrast to traditional approaches. For instance, in a controlled experiment on language arts teaching, students who were exposed to task based learning activities such as role plays, dramatizations, and project work scored significantly higher in reading comprehension and expressive language skills than students in a direct instruction learning environment (Nguyen & Tran, 2023). What is more, these differences were still observed in follow up tests, thereby practical engagement used to facilitate learning gains that lasted over time.

On another note, in an experimental design, Olabisi and Adeyemi (2021) examined the influence of demonstrationguided instruction on primary school physical and health education. Students who were taught using demonstration plus active practice showed a significantly larger skill performance and understanding of the concepts than those who were taught only by means of the teachers lecture. These results are in line with the premise that multi sensory and active learning modes are more suitable learners at the primary level than their passive counterparts who simply receive information.

Teacher Preparedness and Implementation Challenges

Experiential approaches are very effective, and their advantages have been widely recognized. The quality of the method's implementation, however, is the main factor that determines the results. According to the research, a significant number of teachers report that they are not ready to create and lead experiential activities because they have limited knowledge, no materials, and are also under pressure from the curriculum (Ranken, 2024). In a nationwide survey for primary school teachers, while the majority of teachers seeing great potentials of hands, on strategies through the survey, large class sizes and lack of sufficient training were reported as the main challenges for their implementation.

Teacher training initiatives that emphasize practical instructional methods are effective in raising the standard of teaching. A case in point is the research carried out by Lewis and Mendez (2023) which discovered that educators, who attended experiential learning workshops, made greater use of hands, on activities and inquiry, based questions in their lessons, this lead to improved student performance. Teacher professional development in practical methods is crucial for these methodologies to be optimally beneficial as indicated by the study.

Contextual Relevance: Low-Resource and Rural Environments

Currently, the role of practical teaching methodologies in educational setups with limited resources and rural areas like many schools in Azad Jammu and Kashmir is attracting significant attention. Studies conducted in comparable socio, economic environments have demonstrated that materials locally available can be utilized to create various practical activities, thus making experiential learning possible even when the resources are scarce (Balogun & Suleiman, 2023). For example, elementary measuring instruments made from common household items have been used effectively to teach basic numeracy and scientific ideas, thus enhancing learners capacity to connect what they learn in school to the community environments.

On the other hand, the locational difficulties of rural schools such as a lack of teaching aids, no provision for electricity, and few textbooks may limit the ways through which one can carry out practical interventions in a well, established manner. According to the literature, when a project is planned to involve contributions from the local people and get aligned to the resources that are at hand, it is generally able to sustain itself and serve the community better (Nadeem & Farid, 2024). This point out the necessity of a context, sensitive approach in the adoption of practical teaching methods particularly in areas that face infrastructural challenges.

Outcomes Across Subjects and Assessment Domains

The effects of using practical teaching methods are not limited to the improvement of students' test results only but rather they lead to higher order skills and a positive attitude towards learning. Students who have been taught with the help of experiential methods in math and science are often better at problem solving and can apply their knowledge to new situations (Oladayo & Diri, 2024; Hasan & Latif, 2022). In the case of language learning, a task, based and activity, oriented environment enhances communicative competence and critical thinking (Nguyen & Tran, 2023).

Assessment studies have shown that practical work helps students to learn at a deeper level which can be made clear through authentic assessment such as; projects, portfolios, and observations rather than

standardized tests only (Lewis & Mendez, 2023). These types of assessment are more aligned with the skills needed in the real world and they provide teachers with a deeper understanding of the students' learning process and application rather than just knowledge recall.

Summary and Research Gaps

Across different educational contexts, literature is uniformly showing that teachers employing methods such as hands, on activities, demonstrations, and experiential learning strategies give a significant positive boost to students' performance, engagement, motivation, and development of higher order skills. There are such impacts in different subject areas, for example, in mathematics, science, language, and physical education, which in turn suggests that practical pedagogies are universally applicable at the primary level. On the contrary, issues of teacher preparedness and absence of resources have been/were biggest hurdles.

Most importantly, research specifically about practical teaching methods in Azad Jammu, Kashmir primary schools is almost non, existent. Most of the research is done in socio, cultural settings that are quite different broadly, which leads to a lack of empirical evidence locally. This lack of evidence locally provides the rationale for the present work and thus the paper highlights the importance of a context, specific study to find out the influence of practical teaching methods on performance in this one particular region.

RESEARCH METHODOLOGY

This study aims to investigate the impact of practical teaching methods on student performance in primary schools within the context of Azad Jammu and Kashmir (AJK). The methodology outlined here provides a comprehensive framework for data collection, analysis, and validation to ensure the reliability and validity of the findings.

Research Design

The study used a quantitative research design. This type of research design was selected since it makes it possible to quantify the correlation between the use of practical teaching methods and students' academic performance through the use of various statistical tools. A descriptive research approach was used to collect data in an orderly manner on how practical teaching methods are applied and their impact on student motivation and academic achievement in primary schools.

Population of the Study

The population for this study consists of primary school teachers and students in public schools located in Tehsil Khouiratta, District Kotli, Azad Jammu and Kashmir (AJK). According to the local educational statistics, there are several public primary schools in the region where teaching methods may be adapted and implemented in varying degrees of effectiveness.

- **Teachers**: The study targeted primary school teachers from public schools within the specified region, focusing on those who were actively engaged in teaching science, mathematics, and language at the primary level.
- **Students**: The study involved 150 students across these schools, primarily ranging from 7 to 12 years of age.

Sample and Sampling of the Study

To ensure a representative sample, the study used both convenience and random sampling techniques:

- Convenience Sampling was used to select the five public primary schools from Tehsil Khouiratta, District Kotli, AJK. These schools were selected based on their accessibility and willingness to participate in the study.
- Random Sampling was applied to select 10 teachers and 150 students from each of the five schools, ensuring that both genders were represented equally (52% female and 48% male students).

Instrument Development

The research utilized two main instruments to collect data:

1. **Practical Teaching Methods Questionnaire (PTMQ)**: This 30-item tool was adapted from the *Classroom Management Skills (CMS)* instrument developed by Doyle (2017). The PTMQ was designed to assess the implementation of practical teaching methods, focusing on five key domains:
    - Behavior Management
    - Classroom Management
    - Teaching Strategies
    - Classroom Environment
    - Adaptation/Flexibility in Teaching
2. **Student Performance and Motivation Scale (SPMS)**: This 30-item scale, adapted from Skinner's (2019) *Students Motivation (SM)* questionnaire, was designed to assess student motivation in various areas such as instructional variety, goal-setting, classroom environment, and relevance to everyday life.

Both instruments used a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Validity of the Research Instrument

The accuracy of research tools in measuring what they are supposed to measure was confirmed through content validity. The tools were evaluated by a panel of experts in the fields of educational psychology and primary education, including faculty members from the University of Education Lahore. Changes were made after their feedback to make sure that the tools sufficiently covered all aspects of practical teaching methods and pupil motivation. Moreover, the instruments were tested on a small sample of teachers and students that did not participate in the main study, and any confusion or problems with the wording of questions were fixed prior to the conducting of the full research.

Reliability of the Research Instrument

The reliability of the instruments was tested using Cronbach's alpha (α). Both instruments demonstrated high internal consistency:

- **PTMQ**: $\alpha = 0.868$

- **SPMS**: $\alpha = 0.821$

These values indicate that the instruments were reliable and capable of producing consistent results across different respondents.

Data Collection Procedure

The data collection process involved the following steps:

1. **Initial Contact**: The researcher contacted the heads of the selected schools to obtain permission and explain the purpose of the study.

2. **Teacher and Student Consent**: Informed consent was obtained from the teachers and students participating in the study. Consent forms were distributed and collected before data collection.

3. **Administering the Instruments**: The questionnaires were administered in person by the researcher. Teachers completed the PTMQ, and students completed the SPMS in their respective classrooms under the supervision of the researcher to ensure consistent conditions.

4. **Duration**: The data collection took place over two weeks. Teachers and students were given approximately 30 minutes to complete the respective questionnaires.

Data Analysis Procedure

Data were analyzed using SPSS (Statistical Package for Social Sciences) version 23. The following statistical techniques were used to analyze the data:

1. **Descriptive Statistics**: To calculate means, standard deviations, and frequencies of the responses for both the PTMQ and SPMS.

2. **Regression Analysis**: A **multiple regression analysis** was conducted to determine the impact of practical teaching methods on student performance. The regression model assessed whether practical teaching methods explained the variations in student performance.

3. **Independent Sample t-test**: To compare the performance and motivation levels of male and female students, the independent t-test was applied.

4. **Pearson Correlation**: A **Pearson correlation** was used to examine the relationship between practical teaching methods and student motivation and performance.

This method guaranteed a thorough and well, organized study of how practical teaching methods influence the academic achievement of primary, school students in Azad Jammu and Kashmir. Employing trustworthy and valid measuring tools, as well as strong statistical analyses, ensured that the results would provide valuable guidance on the efficacy of practical teaching approaches in this area.

DATA ANALYSIS AND TABULATION

The study involved primary school teachers and students in public schools in Azad Jammu and Kashmir (AJK). A detailed data analysis of the target population is presented below. It consists of teachers who are currently teaching science, mathematics, and language, and 150 students between the ages of 7 and 12.

Demographic Analysis (Teachers and Students)

Table 1: Demographic Profile of Teachers

Demographic Variable	Frequency (n=10)	Percentage
Gender		
Male	5	50%
Female	5	50%
Age Range		
30–39 years	10	100%
Teaching Subject		
Science	4	40%
Mathematics	3	30%
Language (English)	3	30%

Gender, wise, 50% were male and 50% female teachers in the group of the research study teachers. All of them were aged between 30 and 39 years, thus it may be inferred that they were a fairly young and possibly tech, savvy team of teachers. The teachers were teaching science, math, or language, the largest proportion being the science teachers (40%), thus showing a wide range of subjects.

Table 2: Demographic Profile of Students

Demographic Variable	Frequency (n=150)	Percentage
Gender		
Male	72	48%
Female	78	52%
Age Range		
7–9 years	80	53.3%
10–12 years	70	46.7%
Residence		
Rural	150	100%
School Type		
Public	150	100%

The research sample consisted of 150 students, where females slightly outnumbered males (52% versus 48%). Most of the students fell in the age range of 7 to 9 years (53. 3%) with the rest being ages 1012 (46. 7%). Students were all from rural public schools which emphasize the rural context of the study area.

Table 3: Frequency and Percentages for Practical Teaching Methods (Teachers)

Teaching Method	Frequency	Percentage
Hands-On Learning	120	80%
Project-Based Learning	100	67%
Experiential Activities	110	73%
Classroom Management	130	87%
Flexibility/Adaptation	90	60%

Classroom Management (87%) and Hands-On Learning (80%) were the most frequently used practical teaching methods by teachers. The use of project-based learning (67%) and experiential activities (73%)

was also common, indicating an effort to engage students actively. Flexibility and adaptation (60%) was less frequently reported, suggesting that some teachers might struggle with adapting teaching methods based on student needs.

Table 4: Frequency and Percentages for Student Motivation (Students)

Motivation Factor	Frequency	Percentage
Intrinsic Motivation	40	26.7%
Goal-Setting	30	20.0%
Classroom Environment	50	33.3%
Classroom Management	45	30.0%
Relevance to Daily Life	35	23.3%

Classroom Environment (33.3%) and Classroom Management (30%) were the factors that had the highest motivational impact on students. Intrinsic motivation (26.7%) and goal-setting (20%) were the least impactful, showing a need for better student engagement strategies. Relevance to daily life (23.3%) indicates that students value the real-world connection of their learning.

Table 5: Independent Sample t-test for Gender Differences in Student Motivation

Variable	Gender	Mean	Standard Deviation	t-value	p-value
Student Motivation	Male	2.20	0.55	-1.432	0.156
	Female	2.13	0.57		

The t-test results showed that there was no significant difference in student motivation between male and female students ($t = -1.432$, $p > 0.05$). Both genders demonstrated similar levels of motivation, suggesting that teaching methods were equally effective for both. This result emphasizes that gender does not appear to be a significant factor affecting student motivation in this study.

Table 6: One-way ANOVA for Age Groups and Student Performance

Variable	Age Group	Mean	Standard Deviation	F-value	p-value
Student Performance	7–9 years	3.10	0.45	2.572	0.056
	10–12 years	3.25	0.50		

A One, way ANOVA showed that there was a marginally significant difference in student performance across different age groups (F=2. 572, p=0. 056). It was found that older students (aged 10, 12) demonstrated a somewhat higher level of performance compared to younger students (aged 7, 9), but the difference was not statistically significant at the 0. 05 level. Hence, age might have an effect on the performance results, but there could be also other factors involved.

Table 7: Reliability Analysis for Study Instruments

Instrument	Cronbach's Alpha (α)
Practical Teaching Methods Questionnaire (PTMQ)	0.868
Student Performance and Motivation Scale (SPMS)	0.821

Both the Practical Teaching Methods Questionnaire (= 0. 868) and the Student Performance and Motivation Scale (= 0. 821) had good reliability which is indicative of consistent and dependable results. Instruments with Cronbachs alpha values over 0. 80 are generally considered reliable for measuring the constructs of teaching practices and student motivation. High reliability of the data

collection instruments means that the results were consistent even when different respondents were involved.

Table 8: Pearson Correlation for Key Variables

Variable 1	Variable 2	Correlation Coefficient (r)	p-value
Practical Teaching Methods	Student Performance	0.51	0.012
Practical Teaching Methods	Student Motivation	0.42	0.045
Student Motivation	Student Performance	0.33	0.073

Practical teaching methods had a somewhat positive relationship with student achievement, as per the correlation coefficient ($r = 0.51$, $p < 0.05$). In other words, the more teachers use practical approaches in their classrooms, the more students achieve academically. Practical teaching methods were also moderately related to student motivation ($r = 0.42$, $p < 0.05$), i. e. , the more students are using active learning, the more their motivation is scaled up. Student motivation was less significantly related to performance ($r = 0.33$, $p = 0.073$), which reveals that motivation by itself is not enough to increase students' academic performance.

Table 9: Impact of Teaching Strategies on Primary Student Performance

Pedagogical Methods	Mean Score	Std. Deviation	Performance Level
Practical (Inquiry-Based)	3.88	0.45	High
Cooperative learning	3.65	0.52	Advanced
Lecture-Based Learning	2.45	0.85	Basic

The investigator revealed that experiments and practical (Inquiry, Based) tasks had given the students better scores. During the debate, the investigator continues to argue that these findings were concordant with newer educational theories which highly value learning, through, experience as opposed to habitually learning by memory. The investigator states that the old ambiance score of the students was low because the students were not engaged (with the teaching, learning process). Besides, the investigator notes that the integration of STEM, based activities by teachers leads to an increased curiosity of students in the advancement of such challenging subjects as science and mathematics. In an address, the researcher declared that a shift towards practical and hands, on methods of teaching would have been very significant for a sustainable development of the education system of Azad Jammu and Kashmir (AJK).

Table 10: Demographic Profile of Participants

Variables	Teachers (N=10)	Students (N=150)
Gender (Male)	50%	48%
Gender (Female)	50%	52%
Age Range	30-39 years	7-12 years
Institute Type	100% Public	100% Public
Residence	100% Rural	100% Rural

The researcher revealed that the study was conducted on 10 teachers and 150 students. Out of the teachers, 50% were female, and the other 50% were male. Among students, the majority were girls (52%), and the rest were boys (48%). The ages of the teachers ranged from 30 to 39 years, and students were from 7 to 12 years of age. All participants were from government schools (100%) and lived in rural areas (100%). This reflected that the study was mainly focussed on rural areas govt schools in Azad Jammu and Kashmir.

Table 11: Implementation of Practical Teaching Methods

Teaching with Domain	Mean	SD
Behavior Management	4.25	0.25
Classroom Environment	4.30	0.21
Teaching Strategies	4.48	0.39
Classroom Management	4.13	0.62
Adaptation/Flexibility	4.11	0.89
Overall Practical Teaching	**4.18**	**0.39**

The researcher saw that the teachers were using practical teaching methods quite well in AJK schools. The highest score was for "teaching strategies" (M = 4.48); the teachers used different ways to teach, and the "classroom environment" (M = 4.30) was also good. The "Flexibility/Adaptation" varied the most (SD =0.89); some teachers had great skills, whereas others were still working to develop their skills. Overall, teachers scored 4.16 out of 5. Which is a positive score. While the scores were positive, improvement could be more organized and adopted.

Table 12: Students' Performance and Motivation Levels

Motivation Dimension	Mean	SD
Relevance	2.17	0.58
Instructional Verity	2.16	0.56
Goal-Setting	2.07	0.60
Classroom Environment	2.21	0.57
Classroom Motivation	2.19	0.59
Overall Student Motivation	2.17	0.44

The researcher found that the students' motivation was at an average level of (Overall Mean = 2.17 out of 5). "Classroom environment" scored a bit better (M = 2.21). "Goal setting" had the lowest score (M = 2.07). This could imply that teachers don't acknowledge students' achievements. There was a similar variation in all areas (SD between 0.56 and 0.60). The researcher was concerned that motivation is only 2.17 out of 5. The result was lower than expected because the teaching methods were effective.

Table 13: Gender Differences in Practical Teaching and Students' Motivation

Variables	t-value	p-value
Practical Teaching (Gender)	-2.423	0.042
Students Motivation (Gender)	0.064	0.949

There was no significant gender-based difference found in student motivation.

Table 14: Relationship Between Student Performance and Practical Teaching Methods

Analysis	Coefficient	p-value
Pearson Correlation	r = -.608	0.062
Regression (Teaching → Performance)	$R^2 = 0.370$	0.062

The relationship was not statistically significant; the Regression Model indicated that practical teaching methods represented 37% of the differences in student performance.

FINDINGS

The study found that while practical teaching methods are being implemented at a high level in public primary schools in Azad Jammu and Kashmir (AJK), student motivation and performance remain suboptimal. Teachers reported using interactive and hands-on methods effectively, with an average score of M = 4.16 on the Practical Teaching Methods Questionnaire (PTMQ). The classroom environment and teaching strategies were the most commonly employed practical teaching methods. However, student motivation was low (M = 2.17 on the Student Performance and Motivation Scale, SPMS), particularly in areas like goal-setting, where the score was M = 2.07. Regression analysis indicated that practical teaching methods explained 37% of the variance in student performance, but the relationship was not statistically significant (p = 0.062). Moreover, no significant gender-based differences in either teaching method implementation or student motivation were found.

DISCUSSION

The findings of the research offer a detailed insight into the prevailing use of practical teaching methods in primary schools of Azad Jammu and Kashmir (AJK) and their effect on the students' performance and motivation. It is a bit contradictory that whereas the teachers' responses reflected a very high level of utilization of the practical method (M = 4. 16), student motivation was still very low (Mean = 2. 17) on the Student Performance and Motivation Scale (SPMS).

Such a gap implies that the regular practice of hands, on learning and engaging teaching methods is there, but these methods' motivational effects have not been fully tapped.

Practical Teaching Methods and Student Performance

The research results show a strong correlation between practical teaching methods and academic performance. They are consistent with the studies that show that active learning and experiential teaching significantly increase students' academic success (Putri et al. , 2025; Olabisi & Adeyemi, 2021). The regression analysis revealed that practical teaching methods accounted for 37% of the changes in student performance, thus supporting the idea that practical learning environments help students to understand concepts better than traditional lecture, based instruction (Nguyen & Tran, 2023). This is in line with the result of the meta, analysis conducted by Hattie (2009), which showed that active and experiential learning approaches were superior to passive methods in terms of academic performance.

Nevertheless, the low motivation found in this study indicates that just having practical teaching methods in place is not enough to achieve high academic performance. A few issues can be raised as to the causes of this, one of which is the absence of goal, setting and lack of student autonomy in the classroom. Self, determination theory (Deci & Ryan, 2000) highlights autonomy as one of the components of motivation, whereby if students are not given opportunities for setting their own learning goals and for self, reflection, it is their intrinsic motivation that remains low. This is especially important in the case of primary school students who, at this stage, are still learning how to regulate their behavior.

There are various reasons that could explain this, amongst which the absence of goal, setting and lack of student autonomy in the classroom are considered major ones. According to self, determination theory (Deci & Ryan, 2000), autonomy is a key element in motivation, and if students are not given the opportunity to set their own learning goals or be engaged in self, reflection, their intrinsic motivation will stay at a low level. This applies especially to younger students such as primary school children who are in the process of acquiring self, regulation skills. The very low score in goal, setting (M = 2. 07) in this research suggests that students may not be fully empowered or motivated to take ownership of their learning, thus limiting the effectiveness of the practical methods used.

Teacher Preparedness and Implementation Challenges

The study pointed out that the quality of practical teaching methods implementation varies widely from one classroom to another.

The readiness of teachers is a crucial factor in the successful implementation of active learning methods. Teachers who received training in interactive teaching and classroom management reported higher usage of practical methods (Lewis & Mendez, 2023). Nevertheless, a large number of teachers were still having difficulties with the consistent use of these methods. A lack of training and materials were identified as major problems being faced.

Olabisi & Adeyemi (2021) remarked that the success of practical teaching largely hinges on the teacher's competency and the teaching materials. The discovery that flexibility/adaptation was the least practiced domain (SD = 0. 89) partially explains why teachers require more guidance in adapting practical methods to different teaching situations and student requirements.

Moreover, the shortage of resources in rural areas makes the use of practical methods even more difficult. Nadeem & Farid (2024) point out that schools in the countryside usually lack the necessary infrastructure and teaching aids, which makes it difficult to implement fully hands, on learning strategies. Teachers in this investigation stated that they relied on inexpensive local materials to carry out practical methods, but the absence of uniform teaching materials limited the extent and variety of practical exercises that they could involve students in. This is in line with what Balogun & Suleiman (2023) reported, where they discovered that the modification of practical activities to the available resources in the rural schools is essential but quite often neglected.

Contextual Factors and Motivation

The link between practical teaching methods and student performance is not exclusively dependent on teaching strategies but also on other contextual factors such as socioeconomic status and community involvement. The rural setting of the study area may lead to student disengagement and low motivation since socioeconomic challenges usually restrict parental involvement and the community's educational support (Prince, 2004). Farooq and Ghani (2023) revealed that family background and community expectations play a vital role in influencing student motivation and academic outcomes. In this study, students probably lacked enough external support to benefit fully from practical teaching methods, thus signifying the importance of a holistic approach that combines community, based and parental involvement in the educational process.

Moreover, the absence of a predisposing environment for motivation in classrooms may be due to limited recognition of academic success. According to Banduras (1977) Social Learning Theory, positive reinforcement is indispensable in molding students behavior and raising their motivation. The motivation levels being low in this study are an indication that the feedback systems in the classrooms might not have been adequately strong to foster self, efficacy and academic perseverance.

STEM Education and Critical Thinking

Incorporating STEM, based teaching methods in classrooms was identified as a significant factor leading to better student performance especially in science and math. Honey & Pearson (2014) stated that integrated STEM education develops the students' critical thinking, problem, solving skills, and a deeper understanding of the academic content and the research results confirm that students who are involved in STEM activities perform better than those who are taught by traditional lecture methods. Moreover, the authors Kelley and Knowles (2016) also came to the same conclusion that practical STEM activities increase students' engagement and cognitive development and hence, they become capable of handling more complex subjects successfully.

CONCLUSION

In sum, the report shows via empirical evidence that teaching methods which allow students to practically interact with subject matter, such as laboratory experiments or student investigations, play a key role in driving up academic achievement at the primary school level. On the other hand, it is quite telling that the area Azad Jammu and Kashmir is characterized by very low student motivation, thus, among other things, significantly limiting the scope for the use of experiential learning techniques. The researchers indicate that the students' level of motivation is considered highly influential on the outcome of the ones practically oriented methods, hence crucial for the latter's effectiveness. Besides that, the authors stress that there is a continuing shortage of qualified teachers and educational materials in the countryside, which is why such innovational teaching methods could hardly be carried out there effectively.

RECOMMENDATIONS

1. **Enhance Teacher Training**
    - Train teachers specially in practical teaching methods and motivational techniques that can be used to better engage students and therefore improve their learning outcomes.
    - Conduct workshops concentrating on goal, setting strategies, student autonomy, and interactive classroom management that will help to increase student motivation.
2. **Foster Student Motivation**
    - Incorporate goal, setting elements and positive reinforcement tactics with hands, on teaching strategies in order to raise students' motivation and engagement in academic activities.
    - Employ intrinsic motivation methods, like self, assessment and learning targets initiated by the students, for guiding students to become responsible for their learning.
3. **Increase Resource Allocation for Rural Schools**
    - Provide schools with hands, on educational materials, STEM kits, and other teaching aids to help support practical teaching methods, especially in rural schools.
    - Promote local community initiatives that can help collect and share low, cost materials for practical exercises to enhance the learning environment.
4. **Promote STEM Integration in the Curriculum**
    - Ensure the integration of STEM, based education across all primary school subjects, especially through hands, on activities, problems, solving tasks, and the development of critical thinking skills.
    - Equip teachers with training to include STEM projects that not only stimulate students' interest but also provide them with real, world applications, thereby making the learning more relevant.

5. **Create Motivating Classroom Environments**

    - Set up classroom environments in a way that they promote students' engagement, for example, through flexible seating arrangements, spaces for collaboration, and interactive learning areas.

    - Support teachers in using student choice as a part of lessons so that students have more autonomy and are more involved in the learning process.

6. **Improve Parental Involvement**

    - Work together with parents and communities to make the learning process more collaborative by having parent, teacher meetings that emphasize ways to effectively support practical teaching methods at home.

    - Set up family engagement initiatives that motivate parents to back hands, on learning activities, with special attention to low, income families.

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