

Teacher Effectiveness among Secondary School Teachers in Mizoram: A Study across Selected Demographic Variables

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Abstract— Teacher effectiveness is a critical determinant of educational quality and student development, yet it remains a complex and multifaceted construct. Traditionally, effectiveness has often been narrowly defined in terms of students' academic achievement, overlooking broader professional and contextual dimensions of teaching. The present study aims to investigate differences in effectiveness with respect to selected demographic variables, namely gender, age, and teaching experience. A descriptive survey research design was employed, and data were collected from a sample of 400 secondary school teachers using a standardized Teacher Effectiveness Scale. Statistical techniques such as mean, standard deviation, independent samples *t*-tests, and one-way analysis of variance (ANOVA) were used for data analysis. The findings reveal that there is no significant difference in teacher effectiveness with respect to gender, age, or teaching experience. The study concludes that teacher effectiveness is not influenced by demographic characteristics but is instead shaped by professional competence and classroom performance. The findings highlight the importance of continuous professional development programs aimed at enhancing teacher effectiveness irrespective of personal characteristics.

Index Terms— Teacher effectiveness, secondary school teachers, demographic variables, teaching experience, Mizoram

I. INTRODUCTION

Education is universally acknowledged as a powerful instrument for social, economic, and human development, and teachers occupy a central position in the realization of educational goals. Among the various school-related factors influencing student learning, teacher effectiveness has consistently been identified as one of the most significant (Darling-Hammond, 2000; Hattie, 2009). Effective teachers play a pivotal role not only in enhancing students' academic achievement but also in shaping their attitudes, values, and life skills. Consequently, understanding teacher effectiveness has become a major concern for educational researchers, policymakers, and practitioners across the world.

The concept of teacher effectiveness is complex and multifaceted, making it difficult to define in precise terms. Etymologically, the term effectiveness is derived from the Latin word 'effectivus', which means productive or capable of producing a desired effect. In educational contexts, teacher effectiveness broadly refers to the degree to which teachers successfully promote desired learning outcomes among students. According to Medley (1982), teacher effectiveness can be understood as the extent to which a teacher's behaviour produces intended educational results. Similarly, Kyriakides et al. (2009) define teacher effectiveness as the impact of teaching practices on students' cognitive, affective, and social development.

Historically, research on teacher effectiveness has often relied on a result-oriented perspective, equating effective teaching with students' academic performance, particularly standardized test scores. This approach gained prominence with the rise of accountability systems and value-added models of teacher evaluation (Hanushek & Rivkin, 2010). While student achievement is an important indicator of instructional success, it is influenced by a wide range of factors, including socio-economic background, parental support, school climate, and peer influence, which are often beyond the control of teachers (Darling-Hammond, 2000).

Contemporary perspectives advocate for a broader and more holistic understanding of teacher effectiveness. From this viewpoint, effective teaching involves not only the transmission of subject knowledge but also the creation of supportive learning environments, the use of appropriate pedagogical strategies, and the ability to respond to diverse learner needs. Shulman (1987) emphasized the importance of pedagogical content knowledge, arguing that effective teachers integrate subject matter knowledge with an understanding of how students learn specific concepts. Similarly, Hattie's (2009) synthesis of meta-analyses highlighted that teachers' instructional decisions, feedback practices, and classroom relationships have a substantial influence on student outcomes.

Teacher effectiveness is often conceptualized through the interrelated constructs of teacher competence and teacher performance. Teacher competence refers to the knowledge, skills, attitudes, and professional dispositions that teachers possess, including subject expertise, pedagogical knowledge, classroom management skills, and assessment literacy (European Commission, 2013). Teacher performance, on the other hand, refers to the actual enactment of these competencies in classroom

practice. Effective teaching therefore depends not merely on possessing professional knowledge but on the ability to apply it effectively in real instructional situations.

Another important dimension of teacher effectiveness is its developmental nature. Unlike fixed personal traits, effectiveness is dynamic and can be enhanced through professional experience, reflective practice, and continuous professional development (Guskey, 2002). Research suggests that teachers who engage in ongoing learning, collaboration, and self-reflection are more likely to improve their instructional practices and positively impact student learning (Avalos, 2011). This perspective underscores the importance of examining teacher effectiveness not as an innate characteristic but as a professional quality that can be nurtured.

Demographic variables such as gender, age, and teaching experience have frequently been examined in relation to teacher effectiveness, though findings have remained inconclusive. Some studies suggest that experience contributes to instructional expertise, particularly during the early years of teaching (Rice, 2010), while others indicate that effectiveness does not necessarily increase with years of service. Similarly, research on gender and age differences in teacher effectiveness has produced mixed results, highlighting the need for context-specific empirical investigations.

In light of the above considerations, the present study seeks to analyse differences in effectiveness with respect to selected demographic variables, namely gender, age, and teaching experience. By adopting a comprehensive and empirical approach, the study aims to contribute to the growing body of literature on teacher effectiveness and to provide evidence-based insights for improving the quality of secondary education.

II. RATIONALE OF THE STUDY

Teacher effectiveness plays a vital role in ensuring quality education and achieving educational goals. Despite its importance, teacher effectiveness is often misunderstood and narrowly assessed through students' academic performance alone. Such an approach overlooks the broader professional, behavioural, and contextual dimensions of teaching. Moreover, demographic variables are frequently assumed to influence effectiveness without sufficient empirical evidence.

The present study is significant as it provides empirical data on teacher effectiveness among secondary school teachers in Mizoram, a region where limited research has been conducted in this area. By examining differences in effectiveness with respect to gender, age, and teaching experience, the study contributes to a deeper understanding of whether demographic characteristics truly influence teacher effectiveness. The findings are expected to inform teacher education programs.

III. OBJECTIVES OF THE STUDY

1. To examine whether there is a significant difference in the effectiveness of secondary school teachers in Mizoram with respect to gender.
2. To examine whether there is a significant difference in the effectiveness of secondary school teachers in Mizoram with respect to age.
3. To examine whether there is a significant difference in the effectiveness of secondary school teachers in Mizoram with respect to teaching experience.

IV. NULL HYPOTHESIS

1. There is no significant difference in the effectiveness of secondary school teachers in Mizoram with respect to gender.
2. There is no significant difference in the effectiveness of secondary school teachers in Mizoram with respect to age.
3. There is no significant difference in the effectiveness of secondary school teachers in Mizoram with respect to teaching experience.

V. METHOD OF STUDY

Research Design

A descriptive survey research design was adopted to study the level of teacher effectiveness and to examine differences based on selected demographic variables.

Population and Sample

The population of the study consisted of all secondary school teachers in Mizoram. Using stratified random sampling, a sample of 400 secondary school teachers was selected from different schools across the state. The sample included 259 male teachers and 141 female teachers. With regard to teaching experience, 163 teachers had 10 years or below of experience, while 237 teachers had more than 10 years of experience.

Tool Used

Teacher effectiveness was measured using a Teacher Effectiveness Scale developed by Dr Umme Kulsum (2011), which assessed multiple dimensions related to teachers' professional competence and classroom performance. Higher scores indicated higher levels of teacher effectiveness.

Statistical Techniques

The collected data were analyzed using:

1. Mean and standard deviation
2. Independent samples *t*-tests
3. One-way analysis of variance (ANOVA)

All hypotheses were tested at the required level of significance.

VI. ANALYSIS AND INTERPRETATION OF FINDINGS

The results of analysis are presented in accordance with the objectives of the study, and each objective is followed by the relevant statistical table, results, and interpretation.

Objective 1: To determine whether there is a significant difference in the effectiveness of secondary school teachers in Mizoram with respect to gender.

Table 1
Comparison of Teacher Effectiveness of Secondary School Teachers in Mizoram with Respect to Gender

Gender	N	Mean	SD	<i>t</i>	<i>P</i>
Male	259	369.87	63.10	1.38	> .05
Female	141	377.08	65.56		

Table 1 show that the mean score of teacher effectiveness for male teachers was 369.87 with a standard deviation of 63.10, while female teachers obtained a mean score of 377.08 with a standard deviation of 65.56. The calculated *t* value was 1.38, which is lower than the critical value of *t* at the required level of significance.

The result indicates that there is no statistically significant difference in the effectiveness of secondary school teachers in Mizoram with respect to gender. Although female teachers recorded a slightly higher mean score, the difference was not significant. Therefore, the null hypothesis stating that there is no significant difference in teacher effectiveness with respect to gender was accepted.

Objective 2: To determine whether there is a significant difference in the effectiveness of secondary school teachers in Mizoram with respect to age.

Table 2**Analysis of Variance of Teacher Effectiveness of Secondary School Teachers in Mizoram with Respect to Age**

Source of Variation	Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Between groups	26,939.93	3	8,979.98	2.21	> .05
Within groups	1,607,003.34	396	4,058.09		
Total	1,633,943.28	399			

As presented in Table 2, the calculated *F* value was 2.21, which is lower than the table value of *F* at the required level of significance. This indicates that the differences in mean teacher effectiveness scores across different age groups are not statistically significant.

The result reveals that age does not have a significant influence on the effectiveness of secondary school teachers in Mizoram. Teachers belonging to different age groups were found to be equally effective. Hence, the null hypothesis stating that there is no significant difference in teacher effectiveness with respect to age was retained.

Objective 3: To determine whether there is a significant difference in the effectiveness of secondary school teachers in Mizoram with respect to teaching experience.

Table 3**Comparison of Teacher Effectiveness of Secondary School Teachers in Mizoram with Respect to Teaching Experience**

Teaching Experience	N	Mean	SD	<i>T</i>	<i>p</i>
10 years and below	163	375.33	64.54	0.75	> .05
Above 10 years	237	370.42	63.67		

Table 3 shows that teachers with 10 years or below of experience obtained a mean score of 375.33 with a standard deviation of 64.54, while teachers with more than 10 years of experience recorded a mean score of 370.42 with a standard deviation of 63.67. The calculated *t* value was 0.75, which was not significant.

The result indicates that there is no significant difference in the effectiveness of secondary school teachers in Mizoram with respect to teaching experience. Both less experienced and more experienced teachers demonstrated similar levels of effectiveness. Therefore, the null hypothesis related to teaching experience was accepted.

VII. DISCUSSION

Teacher effectiveness is a multifaceted construct, encompassing not only academic outcomes but also broader dimensions of student development, pedagogical competence, and professional dispositions (Darling-Hammond, 2000; Hattie, 2009). The following discussion interprets the findings in the context of existing research, drawing connections between the results and theoretical perspectives.

Discussion on comparison of teacher effectiveness with respect to gender

The comparison revealed no statistically significant difference between male and female teachers ($t = 1.38, p > .05$).

This finding aligns with research suggesting that gender alone does not determine teaching effectiveness (Stronge et al., 2011). While male and female teachers may exhibit different teaching styles,

both genders can be equally effective in creating supportive learning environments and promoting student learning (Baker, 2017). The results indicate that both male and female teachers in Mizoram possess comparable pedagogical skills, classroom management abilities, and professional competencies, reflecting a gender-equitable teaching fraternity. These findings also support the literature suggesting that teacher effectiveness is primarily influenced by competence, experience, and pedagogical knowledge rather than gender (Kyriakides et al., 2009).

Discussion on comparison of teacher effectiveness with respect to age

The comparison based on age groups showed no significant differences across age groups

($F = 2.21, p > .05$).

These results suggest that teacher effectiveness is not inherently associated with age. Although experience often correlates with years of service, older teachers are not necessarily more effective than younger teachers if they are not actively engaging in reflective practice or professional development (Rice, 2010). This finding is consistent with Darling-Hammond's (2000) findings that teacher quality depends on continuous learning, reflective teaching, and application of pedagogical knowledge rather than age. It also highlights the importance of structured teacher training and professional development programs across all age groups to maintain and enhance effectiveness (Guskey, 2002; Avalos, 2011).

Discussion on comparison of teacher effectiveness with respect to teaching experience

The third comparison indicated no significant difference between less experienced teachers and more experienced.

This finding corroborates research indicating that experience alone is not a sufficient predictor of teacher effectiveness (Rice, 2010; Kupermintz, 2003). While early years of teaching often show steep learning curves and increased competence, effectiveness may plateau if teachers do not engage in ongoing professional learning (Guskey, 2002). Furthermore, teaching effectiveness depends not only on accumulated experience but also on the ability to adapt to diverse classroom needs, apply pedagogical knowledge, and establish positive teacher-student relationships (Shulman, 1987; Hattie, 2009). In the context of Mizoram, these findings suggest that both novice and veteran teachers are capable of achieving high levels of effectiveness, likely due to the emphasis on teacher preparation and professional development programs in Mizoram.

Overall Interpretation

Overall, the findings of the study indicate that teacher effectiveness among secondary school teachers in Mizoram is relatively high and not significantly influenced by gender, age, or teaching experience. This suggests that teacher quality in the region is broadly equitable across demographic categories and emphasizes that effectiveness is a function of competence, pedagogical knowledge, and professional commitment rather than personal attributes or tenure. These findings align with contemporary educational research that views teacher effectiveness as a complex and multidimensional construct, influenced by professional knowledge, classroom practices, and reflective teaching rather than solely demographic variables (Hattie, 2009; Kyriakides et al., 2009; Stronge et al., 2011).

The study also reinforces the importance of continuous professional development as a key factor in sustaining and enhancing teacher effectiveness. Teachers who engage in ongoing learning, reflective practice, and evidence-based instructional strategies are likely to remain effective regardless of age or years of service (Avalos, 2011; Guskey, 2002). These results have implications for teacher education programs, suggesting the need for policies and interventions that focus on building pedagogical competence and professional growth rather than emphasizing demographic differences.

VIII. CONCLUSION

The study concludes that secondary school teachers in Mizoram do not differ significantly in their effectiveness with respect to gender, age, and teaching experience. Teacher effectiveness can be viewed as a multidimensional construct influenced more by professional competence and performance than by demographic variables. The findings highlight the importance of continuous professional development programs aimed at enhancing teaching quality. Future research may explore additional variables such as school climate, leadership support, and instructional resources to gain a more comprehensive understanding of teacher effectiveness.

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