

IMPACT OF TEACHERS' SELF-EFFICACY ON STUDENTS' ACADEMIC ACHIEVEMENT AT SECONDARY SCHOOL LEVEL

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Abstract

The study aims to examine the impact of teachers' self-efficacy on academic achievement of their secondary school students. Quantitative predictive correlational research methodology for the study is selected, based on several factors that align with the research objective. The sample comprised 238 female teachers of district Haripur at secondary school level. The proportionate stratified sampling technique that was deduced to take the sample by carrying out the stratum in terms of rural and urban secondary school level teachers. Standardized questionnaire was used to measure the teachers' beliefs regarding teacher's self-efficacy, using 9 point Likert scale ranging from nothing to a great deal, consisting of 24 items. Regression was applied to find the effect of independent variable on dependent variables of the study. The findings of the study emphasize the interconnectedness of teachers' self-efficacy and student academic achievement. By focusing on strategies that enhance self-efficacy, educational institutions can contribute to improved teaching practices and ultimately enhance student learning outcomes.

Key Words: Teachers' Self-efficacy, Predictive Correlation, Academic Achievement, Impact, Secondary School Students

INTRODUCTION

Education is a cornerstone for individual and societal development, with teachers playing a pivotal role in shaping the learning experiences of students. Recent research has increasingly focused on understanding the diverse factors influencing academic achievement, with a growing emphasis on the significance of teachers' self-efficacy (Bandura, 1997). This study seeks to investigate the impact of teachers' self-efficacy on students' academic achievement at the secondary school level, aiming to uncover the nuanced relationship between educators' self-perceptions and the academic outcomes of their students. The importance of examining teachers' self-efficacy lies in its potential to inform educational policies and practices. Bandura's Social Cognitive Theory posits that self-efficacy beliefs influence individuals' choices, effort, and perseverance (Bandura, 1986). In the educational context, teachers' self-efficacy may shape their instructional approaches, classroom management strategies, and students' motivation levels, thereby influencing academic achievement. This study holds significance as it strives to provide insights that can guide interventions aimed at enhancing teachers' self-efficacy and, subsequently, improving students' academic performance.

Teachers' self-efficacy refers to the belief that teachers hold in their own abilities to organize and execute the actions necessary to bring about desired educational outcomes in their students (Tschannen-Moran & Hoy, 2001). This construct, grounded in Bandura's Social Cognitive Theory, emphasizes the role of self-perceptions in influencing behavior, motivation, and ultimately, performance. Teachers' self-efficacy is not a monolithic concept; rather, it comprises several dimensions that capture different facets of educators' beliefs in their capabilities (Bandura, 1991). The following dimensions provide a nuanced understanding of teachers' self-efficacy:

- **Instructional Efficacy:** This dimension focuses on teachers' confidence in their ability to design and implement effective instructional strategies. It involves the belief that teachers can convey information in a way that fosters student understanding and learning.
- **Classroom Management Efficacy:** This dimension relates to teachers' beliefs in their capacity to maintain a positive and organized learning environment. It encompasses the ability to manage student behavior, maintain discipline, and create an atmosphere conducive to learning.

- **Motivational Efficacy:** Teachers' motivational efficacy pertains to their confidence in their ability to inspire and motivate students to engage in the learning process. This involves fostering students' interest, enthusiasm, and perseverance in the face of challenges.

The independent variable in this research is teachers' self-efficacy, measured through established scales such as the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2007). This scale assesses educators' beliefs in their ability to impact student learning, classroom management, and student motivation. The dependent variable is students' academic achievement, operationalized through standardized test scores, grade point averages, and other objective indicators of scholastic success.

The academic achievement of students is a longstanding concern in education, and teachers are recognized as key contributors to this outcome (Hattie, 2009). Previous research has explored various factors influencing academic achievement, including teacher-related variables. This study builds upon this foundation, specifically focusing on teachers' self-efficacy. Teachers' beliefs in their ability to positively influence students align with the broader literature on the teacher's role in student success (Ingersoll & Strong, 2011). By narrowing the focus to self-efficacy, this research aims to contribute nuanced insights to the existing body of knowledge.

Bandura (2019) Social Cognitive Theory provides the theoretical underpinning for this study. The theory posits that individuals learn not only from direct experiences but also through observational learning (Bandura, 1977). Teachers' self-efficacy, in this context, shapes their behaviors, instructional practices, and interactions with students. By applying this theoretical lens, the research seeks to elucidate the mechanisms through which teachers' self-efficacy influences students' academic achievement. Numerous studies have investigated the relationship between teachers' self-efficacy and students' academic achievement, contributing to a growing body of literature that underscores the importance of this connection. Hoy and Woolfolk (1990) in their seminal work, Hoy and Woolfolk found a positive correlation between teachers' self-efficacy and student achievement. They emphasized that teachers with higher self-efficacy were more likely to adopt effective teaching practices and persevere in the face of challenges. The Teachers' Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Hoy (2001) has been widely used to measure teachers' self-efficacy. Their research demonstrated that teachers' self-efficacy beliefs were predictive of teacher commitment, job satisfaction, and instructional behaviors. Klassen and Tze (2014) conducted a meta-analysis examining the relationship between teachers' self-efficacy and student achievement across various studies. Their findings indicated a moderate but consistent positive correlation, suggesting that teachers' beliefs in their abilities contribute to student success. Caprara et al. (2006) explored the role of teachers' self-efficacy in influencing student academic achievement and found that teachers with higher self-efficacy were more effective in promoting positive student outcomes, even when controlling for students' prior achievement. Hattie and Timperley (2007) influential meta-analysis identified teacher self-efficacy as one of the factors with a substantial effect size on student achievement. The synthesis of numerous studies underscored the importance of fostering teachers' confidence in their instructional abilities.

In conclusion, teachers' self-efficacy is a multifaceted construct encompassing dimensions such as instructional efficacy, classroom management efficacy, and motivational efficacy. Extensive research consistently suggests a positive relationship between teachers' self-efficacy and students' academic achievement, emphasizing the pivotal role teacher play in shaping educational outcomes through their beliefs and actions. Despite the wealth of research examining the general association between teachers' self-efficacy and students' academic achievement, there appears to be a gap in the literature concerning the nuanced contextual factors that may influence this relationship, especially at the secondary school level. Previous studies have often provided broad insights, but there is a need for a more granular understanding of how unique contextual variables within secondary school settings may moderate or mediate the impact of teachers' self-efficacy on student achievement.

- **Contextual Variability:** Secondary schools encompass diverse settings with variations in student demographics, school cultures, and educational policies. Investigating how these contextual factors interact with teachers' self-efficacy can offer insights into the specific dynamics influencing student outcomes in different secondary school contexts.
- **Teacher Professional Development Implications:** Understanding context-specific influences on teachers' self-efficacy can inform targeted professional development programs. Tailoring

interventions to address specific challenges within a given context may be more effective in enhancing teachers' confidence and, subsequently, positively impacting student achievement.

This study may contribute to evidence-based policy recommendations at the secondary school level. Policymakers could use the findings to design interventions and strategies that consider the unique aspects of secondary education, thus fostering an environment conducive to both teacher and student success. School administrators play a critical role in shaping the school environment. Insights gained from the study could assist administrators in creating supportive structures that enhance teachers' self-efficacy and, by extension, contribute to improved academic achievement among students. The study could contribute to refining existing theoretical frameworks by incorporating context-specific variables. This could enhance our theoretical understanding of the relationship between teachers' self-efficacy and student achievement by considering the complexities of the secondary school context.

In summary, the proposed study aims to address a literature gap by delving into the contextual factors that may influence the relationship between teachers' self-efficacy and students' academic achievement at the secondary school level. This research has practical implications for teacher professional development, educational policy, and school administration, offering a more nuanced understanding of the dynamics at play in diverse secondary school settings.

Despite the acknowledged importance of teachers in the educational process, there remains a dearth of comprehensive research addressing the specific dynamics between female teachers' self-efficacy and students' academic outcomes in the context of Khyber Pakhtunkhwa. While global literature recognizes the significance of teacher self-efficacy in fostering positive learning environments, the intersection of this concept with the gender dynamics in the Pakistani educational system warrants focused investigation. The educational landscape in Khyber Pakhtunkhwa, Pakistan, has witnessed significant changes in recent years. As the province strives to enhance the quality of education, there is a growing recognition of the pivotal role played by teachers in shaping students' academic success. Among the teaching cohort, the influence of female educators is particularly noteworthy. This article aims to explore the impact of female teachers' self-efficacy on students' academic achievement at the secondary school level within the unique educational context of Khyber Pakhtunkhwa. By addressing this specific research problem, this study may contribute to filling the existing gap in knowledge regarding the impact of teachers' self-efficacy on students' academic achievement in secondary schools in Khyber Pakhtunkhwa, Pakistan. This research study was delimited to;

- Government Secondary School in District Haripur, Khyber Pakhtunkhwa, Pakistan
- Female Secondary School Teachers

Research Question

By keeping in view the scarcity of literature, the research questions of the study was: hat is the effect of teachers' self-efficacy on students' academic achievement at secondary school level?

Research Methodology

Quantitative survey research methodology for the study is selected, based on several factors that align with the research objective and nature of the research question like objective measurement, generalizability, statistical analysis, and efficient data collection, and standardization, time and resource considerations.

Population and Sample

The population of research comprised of all secondary level teachers in District Haripur, Pakistan. The 117 (66 male and 51 female) high schools. The total high school teachers are (1356 male and 738 female). In addition, urban (02 male, 02 female), semi-urban (12 male, 09 female) and rural (52 male, 40 female) high school teachers. The total population of teachers in each stratum i.e. urban (395 male, 199 female) and rural (961 male, 539 female). The sample comprised 238 female teachers of district Haripur at secondary school level. In addition two strata was selected. From each stratum, only female teachers was selected randomly i.e. urban (67 female) and rural (171 female) by using proportionate stratified random sampling. The sample drawn from the population based on 5% confidence level.

The proportionate stratified sampling technique that was deduced to take the sample by carrying out the stratums i.e. rural and urban secondary school level teachers.

Data Collection Tool

Standardized questionnaire was used to measure the teachers' beliefs regarding teacher's self-efficacy, using 9 point Likert scale ranging from nothing to a great deal, consisting of 24 items. The questionnaire was tested among the non-sample population. Fifty (50) respondents were selected randomly for pilot testing to ensure clarity, readability and quality of the research questionnaire. The validity of tool was checked by expert opinion and suggestions were incorporated accordingly. The reliability of the scale used in this study, was determined by calculating Cronbach's alpha and the value obtained was within the acceptable range as 0.79. Researcher personally collected the data.

The data was analyzed using following statistical test through SPSS software. Regression was applied to find the effect of independent variable on dependent variables of the study. The researcher made every effort to carry out this study using ethical considerations.

Data Analysis

According to the research questions of the study, data was analyzed quantitatively using inferential statistics through SPSS software. The results of data analysis were represented as follows: For data analysis, the gathered information was organized and summarized in Excel. Following that, it was examined using SPSS version 22. To find the impact of perceived self-efficacy of teachers and academic achievement of their students in the SSC exam results in their respective subjects. Before analysis following assumptions of regression model as given by Field (2013) and Laerd (2018).

1. dependent variables should be continuous level.
2. independent variables should be continuous or nominal level.
3. independence of observations
4. linear relationship between the independent and dependent
5. homoscedasticity of residuals
6. without significant outliers
7. normal distributed residual errors
8. without multicollinearity

The perceived self-efficacy of teachers and academic achievement of their secondary school students are continuous. There is a linear relationship between perceived self-efficacy of teachers and academic achievement of their secondary school students. The independence of observations was assessed using Durbin-Watson test to verify autocorrelation. The linearity assumption was tested with scatterplot between perceived self-efficacy of teachers and academic achievement of their secondary school students. The homoscedasticity of residuals was assessed using residual scatterplot. The normality was verified using scatterplot. The multicollinearity was reviewed using variance inflation factor (VIFs). The F test whether independent variables predict perceived self-efficacy of teachers and academic achievement of their secondary school students at 0.05 level. The R^2 tells us value of variance in and academic achievement of their secondary school students by independent perceived self-efficacy of teachers. The B value for independent variable how much dependent variables changes by one unit shift in independent variables.

Table 1 Glejser Test for Homoscedasticity for self-efficacy of teachers and student academic achievement of SSC

Model	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
1 (Constant)	21.890	1.351		16.199	0.000
TSE	0.289	0.013	0.828	22.706	0.000

a. Dependent Variable: Student Academic Achievement (SAA)

Results show that the value of significance for predictive relationship of teachers' self-efficacy (TSE) of secondary school teachers with academic achievement having p (0.000), is less than 0.05 so Heteroscedastic (Berry & Feldman, 1985). The greater significance value up to 0.05 makes the data Homoscedastic and lower Heteroscedastic (Berry & Feldman, 1985, McGuire, 2021).

Table 2 VIF values for self-efficacy of teachers and student academic achievement of SSC

Correlations			Collinearity Statistics	
Zero-order	Partial	Part	Tolerance	VIF



TSE	0.828	0.828	0.828	1.000	1.000
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Multicollinearity. For multiple linear regression which can be tested using VIF values as given in above table 2. Stevens (2009) described that the value of variance inflation factor (VIF) should be less than 10 to show a low linear relationship connection between teachers' self-efficacy (independent variable) and student academic achievement (dependent variable). In this case the VIF value is less than 10 so there is no multicollinearity between both independent and dependent variables.

Table 3 Model Summary for self-efficacy of teachers and student academic achievement of SSC

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Adjusted R²</i>	<i>SE of the Estimate</i>	<i>Durbin-Watson test</i>
1	0.828 ^a	0.686	0.685	7.930	1.732

a. Predictors: (Constant), teachers' self-efficacy TSE

In the model summary table 3, the predictors teachers' self-efficacy (TSE) influenced the secondary school students' academic achievement (SAA). Model Summary for TSE scores and SAA of secondary school students show R^2 0.686(68.6%) which indicated relationship between both variables. Approximately 68.5% variance with adjusted R^2 = 0.685 of predictive variable teachers' self-efficacy (TSE) of secondary school teachers.

Table 4 ANOVA for for self-efficacy of teachers and student academic achievement of SSC

<i>Model</i>		<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>
1	Regression	32424.44	1	32424.44	515.578	0.000 ^b
	Residual	14841.93	236	62.890		
	Total	47266.37	237			

a. Dependent Variable: Student academic achievement SAA of SSC

b. Predictors: (Constant), teachers' Self-Efficacy TSE

In ANOVA table 4, the independent variable of teachers' self-efficacy (TSE) was regressed (32424.445) on the dependent variable student's academic achievement using LRM for the adequacy of the model using statistical viewpoint. F (515.578) test with $p=0.000$ and ($p<0.05$) established significance of the model.

Table 5 Linear relationship for self-efficacy of teachers and student academic achievement of SSC

<i>Model</i>		<i>B</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
1	(Constant)	21.890		16.199	0.000
	SE of teachers	0.289	0.828	22.706	0.000

a. Dependent Variable: SAA

The linear regressions reported in table 5, the predictor the teachers' self-efficacy (TSE) scores, unstandardized coefficients B (0.289), standardized B(0.828), $t(22.706)$ with $p(0.000)$ and $p<0.05$ significant influence of SE of teachers one unit increase in teachers' self-efficacy (TSE), increase (0.828) student's academic achievement.

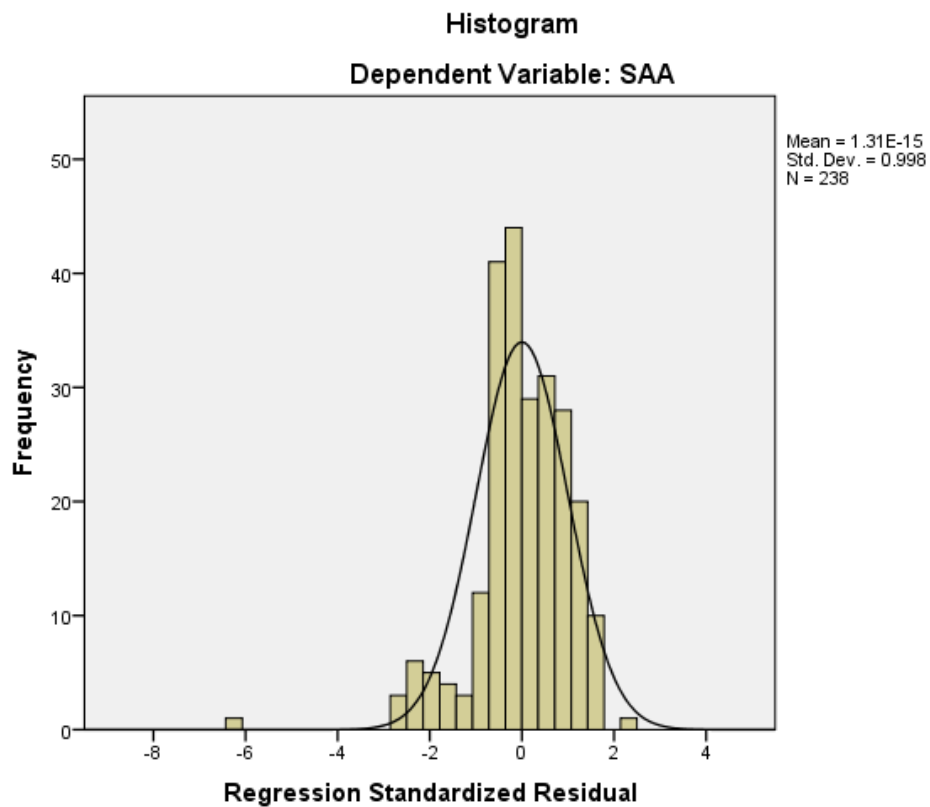


Figure 1
Regression standardized residual (SE of teachers and SAA of SSC)

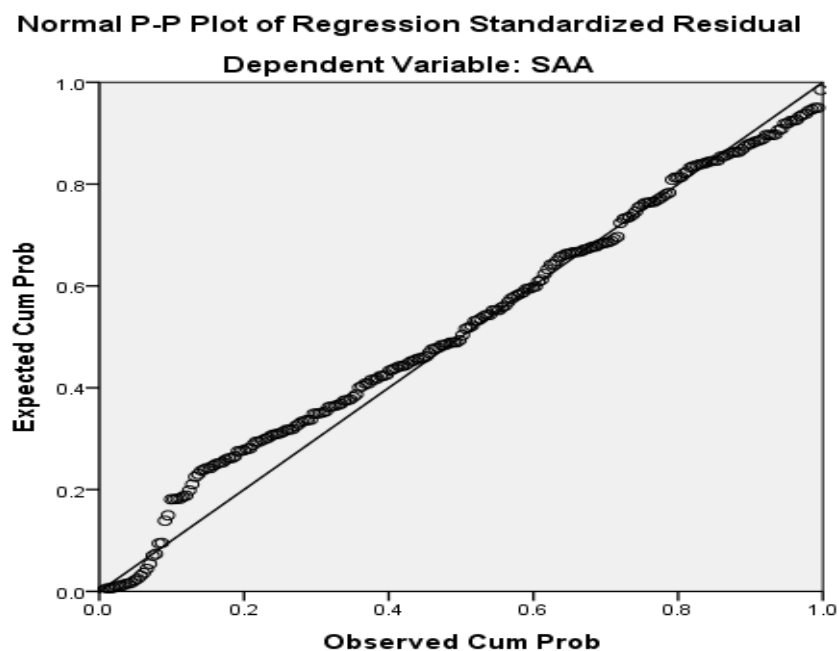


Figure 2 Normal P-P of Regression standardized residual (SE of teachers and SAA of SSC)

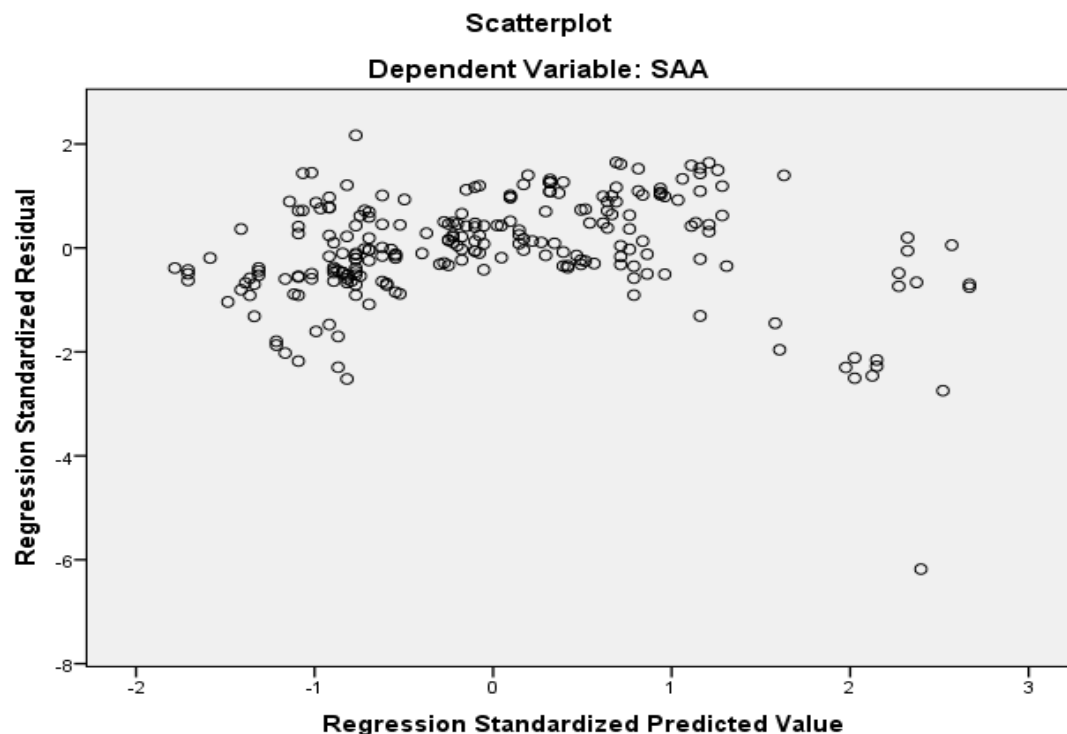


Figure 3 Scatterplot of Regression standardized residual (SE of teachers and SAA of SSC)

This study aimed at findings the effect of self-efficacy of teachers on academic achievement their student at secondary school level. However, this predictive relationship was also confirmed in several prior research studies (Dahar et al., 2011; Ulug et al., 2011; Haider & Hussain, 2014; Ul Hassan & Akbar, 2019; Ullah et al., 2018; Ekperi et al., 2019). Shahzad and Naureen (2017) reported the same results in their research. Moreover, Mehmood et al. (2019); Tus (2020); Naz et al. (2016) have studied students' self-efficacy and its effect on their academic achievement and found positive impact. Shkullaku (2013) also found that high self-efficacy obtained higher scores. Yusuf (2021) also revealed in his study that self-efficacy beliefs were significantly enhanced learning attainment.

Conclusion and Recommendations

This study emphasize the interconnectedness of teachers' self-efficacy and student academic achievement. By focusing on enhancing these factors, educational institutions can create an environment that promotes improved student outcomes and overall educational quality. The study highlight the significant role of teachers' self-efficacy in influencing student academic achievement. By focusing on strategies that enhance self-efficacy, educational institutions can contribute to improved teaching practices and ultimately enhance student learning outcomes.


Based on the conclusions, the following recommendations can be made:

- **Professional Development Workshops:** Organize regular workshops and training sessions for teachers to enhance their self-efficacy. These sessions should focus on effective teaching methodologies, classroom management, and strategies to boost educators' confidence in their abilities.
- **Peer Collaboration Initiatives:** Encourage a culture of collaboration among teachers through peer mentoring programs. Sharing successful teaching practices and experiences can positively impact self-efficacy, fostering a supportive community within educational institutions.
- **Feedback Mechanisms:** Establish structured feedback mechanisms for teachers, including constructive evaluations and acknowledgment of their contributions. This feedback loop can reinforce a sense of competence and efficacy among educators, directly impacting their teaching quality.
- **Incorporate Technology:** Integrate technology into teaching practices to provide teachers with tools that enhance their effectiveness. Training programs on technology integration can empower educators and positively influence their confidence in adapting to modern teaching methods.

- **Student-Centered Approaches:** Promote student-centered teaching approaches that actively engage learners. When teachers witness the positive impact of their methods on student understanding and achievement, it can boost their self-efficacy and motivation.
- **Leadership Support:** Ensure that school leadership is actively involved in supporting teachers' professional development and well-being. Leadership initiatives that recognize and value teachers' efforts contribute significantly to fostering a positive teaching environment.
- **Research-Informed Practices:** Encourage teachers to stay updated on research findings related to effective teaching practices. Integrating evidence-based strategies into daily teaching routines can enhance teachers' confidence in their methods and positively impact student outcomes.
- **Wellness Programs:** Implement wellness programs for teachers to address stress and burnout. A healthy work-life balance and well-being contribute to a positive mindset, which, in turn, can positively influence teachers' self-efficacy and their impact on student academic achievement. These recommendations aim to create a holistic approach to improving educational quality by prioritizing the interconnected elements of teachers' self-efficacy and student academic achievement. Implementing these strategies can lead to a more conducive and empowering educational environment, ultimately benefiting both educators and students.

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