

# What's Teacher Self-Efficacy Got to Do with It? A Regression Analysis of Distance Teaching Performance

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## ABSTRACT

This study examined the predictive influence of teacher self-efficacy on college teaching performance within a hybrid distance education setting. Drawing on Social Cognitive Theory, the research explored how an educator's belief in their capabilities affects professional effectiveness in tech-driven environments. A quantitative, cross-sectional predictive design was employed, involving 47 college professors from a Catholic university in Manila. Data were collected using the Teacher Self-Efficacy Questionnaire and the Evaluation of College Teaching Performance scale. Both instruments demonstrated high reliability, with coefficients exceeding 0.89. Data analysis included descriptive statistics and simple linear regression conducted via JASP. The findings revealed high levels of both teacher self-efficacy ( $M = 7.47$ ,  $SD = 0.95$ ) and teaching performance ( $M = 5.49$ ,  $SD = 0.44$ ). Regression analysis confirmed that teacher self-efficacy is a significant positive predictor of teaching performance,  $F(1, 45) = 33.35$ ,  $p < .001$ . The model explained 42.6% of the variance in performance ( $R^2 = .426$ ), indicating that nearly half of the differences in instructional quality are linked to efficacy beliefs. In conclusion, psychological confidence is as vital as technical proficiency in hybrid education. Educators with high self-efficacy are better equipped to manage virtual classrooms and foster inclusive environments. It is recommended that academic institutions prioritize faculty development programs that foster psychological empowerment. Supporting educator self-belief is essential for enhancing instructional quality and student success in modern digital landscapes.

**Keywords:** Teacher Self-Efficacy, Teaching Performance, Distance Education, Higher Education

## INTRODUCTION

The transition to distance and blended learning during the COVID-19 pandemic (Nieva & Prudente, 2022; Nieva et al., 2024) demonstrated the importance of digital competencies and accelerated the adoption of learning management systems (LMS). By integrating Information and Communication Technologies (ICT) such as laptops and interactive software, educational institutions have moved away from traditional classroom models toward flexible, tech-driven environments (González, 2023; Panergayo & Aliazas, 2021). This global shift has reshaped educational structures, making ICT a potent force in modern instruction (Ali, 2020).

As these technologies become more prevalent, the pedagogical focus has transitioned from teacher-centered instruction to a student-centered approach (Dwivedi et al., 2019). Modern distance learning offers students convenience while requiring 21st-century skills like digital literacy and systems thinking (Ananga & Biney, 2017; Mahlangu, 2018). Effective delivery now relies on seven core principles, such as fostering student-faculty relationships and providing timely feedback, which improve quality across face-to-face, hybrid, and online formats (Mahlangu, 2018). Within these formats, technology facilitates both synchronous real-time interaction and asynchronous self-paced engagement (Ananga & Biney, 2017).

### Distance Education

Distance education, often referred to as e-learning or online learning, encompasses both fully remote and hybrid structures (Armstrong-Mensah et al., 2020; Anderson & Rivera-Vargas, 2020). By mixing traditional face-to-face instruction with online components, blended learning creates a flexible environment that leverages

technology for interactive activities and peer collaboration (Alberta et al., 2023; Saichaie, 2020). This approach effectively eliminates geographical constraints and fosters a personalized experience where students can progress at their own pace (Abdulaxatova, 2025; Lakhal & Bélisle, 2020).

Instruction is primarily delivered through two modes: synchronous and asynchronous learning (Amiti, 2020; CHED, 2022). Synchronous learning requires real-time interaction between teachers and learners at predetermined times, while asynchronous learning allows for flexible access to course materials without simultaneous participation (Gudoniene et al., 2025; Fidalgo et al., 2020). These dual delivery methods enable instructors to facilitate communication and provide content in ways that accommodate diverse learning schedules and minimize the need for in-person attendance (Lakhal & Bélisle, 2020; Saichaie, 2020).

Ultimately, the successful integration of these tools depends on teacher attitudes and technical confidence. Educators must shift from being a "sage on the stage" to a "guide on the side," focusing on facilitation rather than just lecturing (Ananga & Biney, 2017). While some instructors fear a loss of interpersonal connection or teaching quality, the LMS provides an efficient infrastructure for managing content and monitoring performance (Mahlangu, 2018; Panergayo & Aliazas, 2021). When used effectively, technology does not replace traditional methods but instead refines them to ensure a robust and accessible educational experience (Mahlangu, 2018).

### **Teacher Self-Efficacy**

Teacher self-efficacy has become a central topic in school psychology because it significantly influences teaching quality, instructional methods, and student success (Barni et al., 2019). This concept, which is often specific to the subject matter or the teaching environment, represents a teacher's belief in their ability to perform tasks effectively (Cabaron, 2023). Based on Bandura's Social-Cognitive Theory, self-efficacy suggests that individuals act as proactive agents who shape their own experiences through a dynamic interaction of personal, environmental, and behavioral factors (Bervell, 2021; Keane, 2022).

Research shows that teachers with high self-efficacy generally experience more job satisfaction, less stress, and a better capacity to manage student behavior (Barni et al., 2019). Furthermore, these educators are more likely to embrace difficult challenges and set ambitious goals for their students, which leads to better academic outcomes (Alibakhshi et al., 2020). There is also a strong connection between a teacher's confidence and their willingness to integrate technology into the classroom, as those who feel more capable are more likely to use digital tools effectively (Cabaron, 2023).

Because the requirements for online and face-to-face instruction differ, scholars agree that teacher self-efficacy must be studied separately for virtual environments (Dolighan & Owen, 2021). Corry and Stella (2018) assert that examining the relationship between self-efficacy and technology is particularly crucial for distance learning, as technology underpins this educational model. Understanding these beliefs helps educational institutions support teachers as they navigate the unique demands and various conditions of modern digital education (Bervell, 2021; Dolighan & Owen, 2021).

Therefore, the objective of the present study was to determine the predictive influence of teacher self-efficacy on college teaching performance within a distance education setting, specifically a hybrid structure.

## **METHODS**

### **Participants**

The participants were college professors from a Catholic university in Manila, Philippines, who were teaching in a distance education setting, specifically within a hybrid structure. The study utilized a convenience sampling method to recruit these educators, resulting in a final sample of 47 participants who provided complete responses. In terms of gender distribution, female participants comprised the majority of the group at 55.3% ( $n = 26$ ), while male participants accounted for the remaining 44.7% ( $n = 21$ ). The age of the participants ranged from 38 to 64 years with a mean age of 50.75 years ( $SD = 6.25$ ), which suggests a middle-aged demographic. Regarding professional experience, the participants reported between 9 and 40 years of teaching. The average length of

service was 24.64 years (SD = 6.45), reflecting a highly experienced group of educators. According to Hair et al. (2014), the minimum ratio of observations to independent variables is 5:1, with a preferred ratio of 15:1 or 20:1. The current study's sample size (N = 47) exceeds these requirements for a model with one independent variable, ensuring adequate stability for the regression coefficients.

## Measures

Data collection relied on two primary scales, with analysis focused exclusively on their total scores. The first was the 32-item *Teacher Self-Efficacy Questionnaire*, adapted from Robinia and Anderson (2010), which used a 9-point scale to measure efficacy across four domains; a median split of 4.5 categorized participants into high or low efficacy groups. This scale showed excellent reliability with a coefficient ( $\omega$ ) of 0.968 and a coefficient ( $\alpha$ ) of 0.967. The second scale, the *Evaluation of College Teaching Performance*, was adapted from Donlan and Byrne (2020) and used 14 items to assess performance on a 6-point scale (Byrne et al., 2023). Using a median threshold of 3 for categorization, this scale also demonstrated strong internal consistency, with both ( $\omega$ ) and ( $\alpha$ ) coefficients reaching 0.899. Both scales exceeded standard academic benchmarks for reliability, confirming their suitability for the study.

## Research Design and Procedure

This study utilized a quantitative methodology, specifically a cross-sectional predictive design, to examine how teachers' self-efficacy acts as a predictor for online teaching performance (Johnson & Christensen, 2020). Data collection was conducted through an online survey on Microsoft Forms, where participants first reviewed a consent form detailing the study's purpose and the voluntary nature of their involvement. Ethical standards were maintained by ensuring participant anonymity and obtaining informed consent upon completion of the research instrument.

## Data Analysis

The data were processed using JASP 0.95.4. The data analysis began with descriptive statistics and normality testing to ensure the data were suitable for parametric procedures. Normality was confirmed by examining skewness and kurtosis values within the acceptable range of -2 to +2. Following this, simple linear regression was employed to evaluate the predictive relationship between *Teacher Self-Efficacy* and *College Teaching Performance*. The researchers assessed the model fit using the F-test and the coefficient of determination to quantify how much variance in performance was explained by efficacy levels. Finally, regression diagnostics, including the Durbin-Watson statistic and variance inflation factor, were checked to verify the independence of residuals and the absence of multicollinearity.

## RESULTS AND DISCUSSION

The study analyzed data from 47 educators to examine the relationship between *Teacher Self-Efficacy* and *College Teaching Performance*. Although both scales are multidimensional, only the total scores were used due to the small sample size. This resulted in one independent variable and one dependent variable, which is appropriate for performing a linear regression analysis. Normality was confirmed as skewness and kurtosis values for both variables fell within the acceptable range of -2 to +2 (George & Mallery, 2010), justifying the use of parametric testing.

Descriptive analysis, as presented in Table 1, showed that *Teacher Self-Efficacy* had a mean score of 7.471 (SD = 0.945), while *College Teaching Performance* had a mean of 5.489 (SD = 0.443). These findings suggest that the participants demonstrated high teacher self-efficacy for hybrid teaching. Specifically, they expressed confidence in motivating students, managing both physical and virtual classrooms, implementing effective hybrid instructional strategies, and utilizing necessary technology. These results indicate a strong sense of perceived competence, which is crucial for navigating the complexities of hybrid education and potentially leading to improved teaching effectiveness and student outcomes.

Furthermore, the results indicate that the participants demonstrated high levels of teaching performance, which reflects strong pedagogical skills and a significant positive influence on student learning. These educators cultivate inclusive classroom environments that promote open communication and a sense of community, which encourages active student participation. They also deliver course content that is clear and organized while ensuring the material remains relevant to the academic goals of the students. Additionally, these instructors employ various interactive teaching methods to engage learners and adapt their strategies to meet diverse learning needs. Finally, they utilize fair and well-aligned assessment practices by providing timely feedback that accurately measures student progress and supports continuous improvement.

Variables	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Teacher Self-Efficacy	7.471	0.945	-0.262	0.347	-0.702	0.681
College Teaching Performance	5.489	0.443	-0.434	0.347	-1.083	0.681

A simple linear regression was conducted to determine if *Teacher Self-Efficacy* significantly predicts *College Teaching Performance*. The model was statistically significant,  $F(1, 45) = 33.35, p < .001$ . The correlation between the variables was  $R = 0.652$ , and the coefficient of determination ( $R^2 = 0.426$ ) indicated that *Teacher Self-Efficacy* explains 42.6% of the variance in *College Teaching Performance*. The standardized coefficient ( $\beta = 0.652, t = 5.77, p < .001$ ) confirms that *Teacher Self-Efficacy* is a significant positive predictor of performance as shown in Table 2.

Table 2. Linear Regression Analysis Predicting College Teaching Performance from Teacher Self-Efficacy

Coefficients							Collinearity Statistics	
Model		Unstandardized	Standard Error	Standardized	t	p	Tolerance	VIF
M <sub>0</sub>	(Intercept)	5.489	0.065		84.985	< .001		
M <sub>1</sub>	(Intercept)	3.205	0.399		8.040	< .001		
	Self	0.306	0.053	0.652	5.775	< .001	1.000	1.000

The reliability of the model was verified through diagnostic tests. The Durbin-Watson statistic was 2.05, which is near the ideal value of 2.0, indicating that the residuals are independent and no significant autocorrelation exists. Additionally, the Variance Inflation Factor (VIF) was 1.000, confirming the absence of multicollinearity. These results indicate that the regression model is robust and the findings are statistically dependable.

The results of this study reveal that *Teacher Self-Efficacy* is a significant and positive predictor of *College Teaching Performance*. Since self-efficacy accounts for 42.6% of the variance in performance, it is clear that an educator's confidence in their instructional capabilities directly influences their professional success. This finding supports social cognitive theory, which suggests that high self-belief leads to greater effort and better classroom outcomes, especially in challenging environments.

In the context of modern higher education, these results emphasize that technical skills are only one part of the equation. For a professor to perform well, they must also possess a high level of efficacy regarding their ability to engage students and manage classroom dynamics. The data suggest that as self-efficacy increases, teaching performance improves significantly.

This result is consistent with previous studies that highlight the importance of self-efficacy in education. Teachers who possess confidence in their abilities tend to utilize more effective instructional methods, which leads to better student performance. For example, Sangkawetani et al. (2018) found that high self-efficacy enables educators to choose appropriate teaching strategies that improve student comprehension. Additionally, research

by Pressley and Ha (2021) indicates that confident teachers are more successful because they are comfortable addressing student errors. This confidence also allows them to build stronger relationships with students and encourage greater engagement in the learning process (Alibakhshi et al., 2020; Arce-Saavedra & Blumen, 2022).

## CONCLUSION

The findings of this study confirm that *Teacher Self-Efficacy* serves as a significant and positive predictor of *College Teaching Performance* within a hybrid distance education setting. This highlights that while technical proficiency and digital literacy are necessary, a teacher's psychological belief in their competence is equally vital for success in modern, tech-driven environments.

Furthermore, the high mean scores for both self-efficacy and performance indicate that the participating educators are well-equipped to manage the unique demands of hybrid instruction. Their confidence in motivating students and managing diverse learning platforms translates into effective pedagogical practices and inclusive classroom environments. Consequently, these results reinforce social cognitive theory by demonstrating that high self-efficacy leads to greater instructional effort and more successful educational outcomes.

In light of these results, it is clear that supporting the psychological well-being and professional confidence of faculty is essential for institutional success. Academic leaders should move beyond providing technical training and instead focus on comprehensive faculty development programs that foster empowerment and self-belief. By investing in the self-efficacy of educators, universities can ensure higher standards of teaching quality and better support for students navigating the complexities of modern distance learning.

Based on these findings, it is recommended that academic institutions prioritize faculty development programs that foster psychological empowerment and confidence. By supporting the self-efficacy of teachers, universities can likely improve overall instructional quality. Future research could investigate whether other variables, such as institutional resources or pedagogical support, further influence this relationship.

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