



PREDICTORS OF INCLUSIVE TEACHING PRACTICES: THE ROLE OF TEACHERS' PERCEPTIONS, PROFESSIONAL PREPARATION, AND INSTITUTIONAL SUPPORT

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ABSTRACT

Inclusive education has become a global priority for ensuring equitable and quality learning opportunities; however, the factors that promote teachers' implementation of inclusive teaching practices remain insufficiently understood. This study examined the influence of teacher perceptions, institutional support, and professional preparation on inclusive teaching practices among teachers in Ecuador. Guided by Social Cognitive Theory, a quantitative cross-sectional research design was employed using a secondary dataset comprising 232 teachers from various educational institutions. Data were analyzed using descriptive statistics, Cronbach's alpha, Pearson correlation, and multiple linear regression. The findings demonstrated satisfactory internal consistency for all constructs, with Cronbach's alpha values ranging from .745 to .894. Descriptive results indicated relatively positive teacher perceptions toward inclusive education and high levels of inclusive teaching practices. Correlation analysis revealed weak but statistically significant positive relationships between teacher perceptions, institutional support, professional preparation, and inclusive teaching practices. However, the multiple regression model was not statistically significant ($R^2 = .032$, $p = .058$), indicating that none of the three predictors independently explained inclusive teaching practices when considered simultaneously. These findings suggest that inclusive teaching practices are influenced by more complex contextual and organizational factors beyond teachers' perceptions, institutional support, and professional preparation alone. The findings provide practical implications for educational policymakers, school leaders, and teacher education programs seeking to foster sustainable inclusive teaching practices.

1. Introduction

The concept of inclusive education is gaining in importance across the world, as it is the aim of ensuring that every learner is given equal opportunities to access quality education, regardless of their capabilities, background or learning needs. This is acknowledged as one of the core educational measures for achieving equity, participation and social inclusion (Ainscow, 2020; Karim & Hue, 2022). This is echoed in the United Nations Sustainable Development Goal (SDG) 4 which calls for inclusive and equitable quality education as a precursor for sustainable development and lifelong learning (Adipat & Chotikapanich, 2022). This has led to an increasing demand by educational institutions to provide learning spaces that can meet the needs of various students and ensure excellent educational quality.

The concept of inclusive education is also regarded as important indicators of educational quality because it is a measure that shows the school's capacity to make learning opportunities accessible, equitable and effective to all learners (Mezzanotte & Calvel, 2023). The effectiveness of the practices of inclusion, however, is heavily reliant on teacher perceptions, competencies, and classroom practices, the effects of which impact student learning. Positive teacher perceptions relate to increased readiness to use inclusive instruction and engage in modifications to meet the needs of diverse learners (Boyle et al., 2020). However, many teachers still experience difficulties such as lack of professional training, institutional support and resources, which makes inclusive education difficult to put into practice (Bindhani & Gopinath, 2024).

While the attitudes, professional development and institutional support of teachers have been studied separately, studies have not examined how these aspects collectively influence inclusive teaching practices. Additionally, secondary educational data is limited in amount of evidence gathered. This gap will be addressed by the present study which aims to examine the predictive relationship between teachers' perception, professional preparation, and institutional support to inclusive teaching practices, based on the secondary data analysis of teachers' perception of inclusive education. The results will inform the inclusive education field and have implications for teacher training, educational policy and institutional enhancement.

Research Objectives

RO1. To examine the relationships among teachers' perceptions of inclusive education, professional preparation, institutional support, and inclusive teaching practices.

RO2. To determine the individual and combined effects of teachers' perceptions, professional preparation, and institutional support on inclusive teaching practices.

RO3. To identify the strongest predictor of inclusive teaching practices among teachers' perceptions, professional preparation, and institutional support.

2. Methodology

2.1 Research Design

The research method in this study was the Quantitative method with cross sectional and explanatory research design by using secondary data analysis. The explanatory approach was chosen to explore the predictive relationships between teachers' perceptions of inclusive education, professional preparation, institutional support and inclusive teaching practice. Secondary data analysis can be used to produce new empirical data in a way that is methodologically sound and that makes efficient use of research resources.

2.2 Data Source and Participants

This study adopted the publically available data from the "Perceptions of Inclusive Education". This data set includes responses from 233 schoolteachers across a variety of demographic characteristics such as gender, educational qualifications, teaching experience and school type (Acosta-Vargas et al., 2024). This was a secondary analysis of the dataset that was anonymised and is publicly available requiring no further ethical approval or consent from the participants.

2.3 Study Variables

In this study inclusive teaching practices were used as the dependent variable that represents teachers' application of teaching strategies to facilitate diverse learners in inclusive classrooms. Teacher perceptions of inclusive education, teacher professional preparation and institutional

support were used as independent variables. Demographic characteristics like gender, age, educational qualification, teaching experience and school type were also added as control variables representing the difference among respondents.

2.4 Data Processing

The data was screened for missing values, duplication, coding inconsistencies and possible outliers before statistical analyses were carried out. Respondents' descriptive data and distribution of study variables were summarized by descriptive statistics. Cronbach's alpha was used to assess the internal consistency of the constructs, with an acceptable value of 0.70 or higher. The procedures ensured the quality and suitability of the data for further analysis.

2.5 Data Analysis

Data analysis was conducted with the use of Python. Descriptive statistics such as frequencies, percentages, means and standard deviations were used to describe the sample and the study variables. The Pearson correlation analysis was used to analyze the relationships between variables. Multiple linear regression analysis was then used to identify the effects of teachers' perceptions, preparation and institutional support on inclusive teaching practices. A statistical significance of 0.05 was used.

2.6 Ethical Considerations

This study was carried out with a secondary dataset publicly accessible and with responses fully anonymized and without any personally identifiable data. Data sharing policy and ethical standards of the repository were adhered to when using the dataset for secondary data analysis. The study adhered to the principles of confidentiality, responsible data use, and academic integrity by properly citing the source of the original data and reporting the results in an objective manner.

3. Results

3.1 Reliability Analysis

All study constructs showed good internal consistency (Cronbach's alpha). As shown in Table 1, the reliability of all constructs was acceptable to excellent. The internal consistency of Teacher Perceptions was acceptable ($\alpha = .834$), Internal consistency for Institutional Support was good ($\alpha = .745$), for Professional Preparation Internal consistency was acceptable ($\alpha = .781$) and for Inclusive Teaching Practices Internal consistency was excellent ($\alpha = .894$). The overall scale reliability also was quite good ($\alpha = .887$), which meant that the measurement instrument has satisfactory internal consistency for further statistical analysis.

Table 1. Reliability Analysis

Construct	Items	Cronbach's α
Teacher Perceptions	12	.834
Institutional Support	5	.745
Professional Preparation	3	.781
Inclusive Teaching Practices	21	.894
Overall Scale	41	.887

3.2 Descriptive Statistics

Items were averaged to get a composite score for each construct. The descriptive statistics showed that the teachers' perceptions of inclusive education were moderate and positive ($M = 3.297$, $SD = 0.772$). Teachers reported a moderate level of institutional support ($M = 2.778$, $SD = 0.677$) and professional preparation ($M = 2.628$, $SD = 0.773$) while teachers reported a high level of inclusive teaching practices ($M = 4.144$, $SD = 0.554$) as shown in Figure 1 .

Table 2. Descriptive Statistics

Variable	Mean	SD	Minimum	Maximum
Teacher Perceptions	3.297	0.772	1.333	5.167
Institutional Support	2.778	0.677	1.000	4.600
Professional Preparation	2.628	0.773	1.000	5.000
Inclusive Teaching Practices	4.144	0.554	2.381	5.190

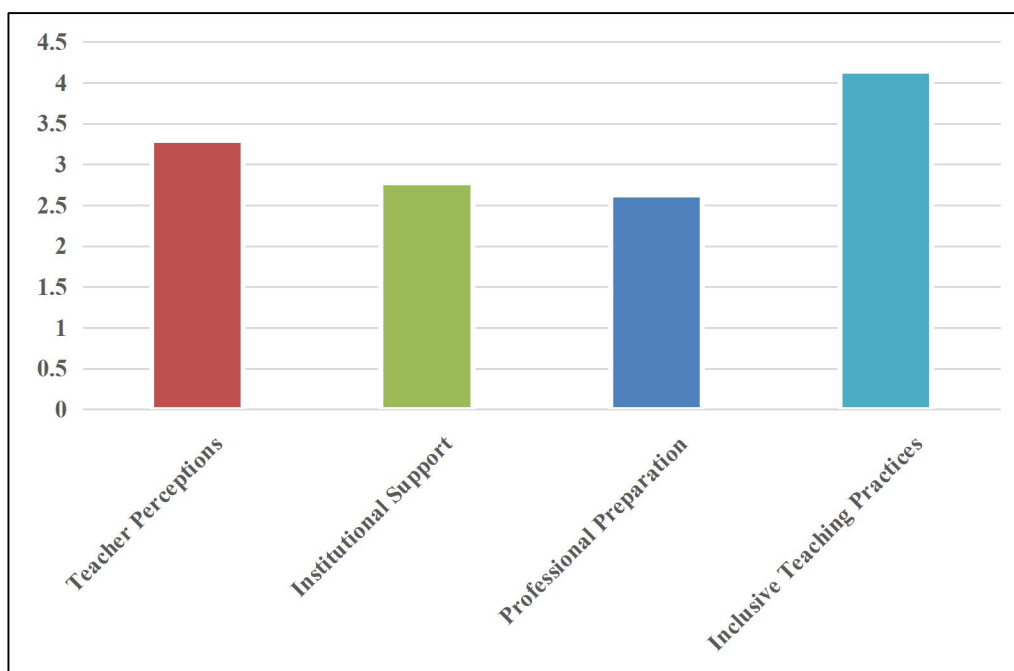
**Figure 1. Mean Scores of the Study Constructs**

Figure 1 presents the mean scores of the four study constructs. Inclusive Teaching Practices recorded the highest mean ($M = 4.14$), followed by Teacher Perceptions ($M = 3.30$), Institutional Support ($M = 2.78$), and Professional Preparation ($M = 2.63$), indicating relatively strong implementation of inclusive practices despite moderate institutional and professional support.

3.3 Assumption Testing

Assumptions of multiple linear regression were checked before regression analysis was performed. The distribution of the composite variables was found to have skewness (from -0.797 to 0.535) and kurtosis (from -0.449 to 0.385) that are acceptable, even though the Shapiro–Wilk test is sensitive in large samples. There was no evidence of multicollinearity with variance inflation factor (VIF) ranging from 1.49 to 1.62 , which is significantly lower than the recommended value of 5 . The Durbin–Watson statistic of 1.861 indicated that the residuals were independent. Thus, the assumption for the multiple regression analysis were deemed to be sufficiently fulfilled.

3.4 Correlation Analysis

The weak positive correlation found between all predictor variables and inclusive teaching practices was statistically significant, but weak. Positive associations with teacher perceptions were found with inclusive teaching practices ($r = .165$, $p = .012$) and institutional support ($r = .136$, $p = .038$), and a similarly weak positive association was found with professional preparation ($r = .129$, $p = .049$). There were moderate positive relationships between the independent variables ranging from $r = .482$ to $r = .544$ for all with $p < .001$ suggesting related but unique constructs as shown in Figure 2.

Table 3. Pearson Correlation Matrix

Variable	1	2	3	4
1. Teacher Perceptions	1			
2. Institutional Support	.482**	1		
3. Professional Preparation	.544**	.523***	1	
4. Inclusive Teaching Practices	.165*	.136*	.129*	1

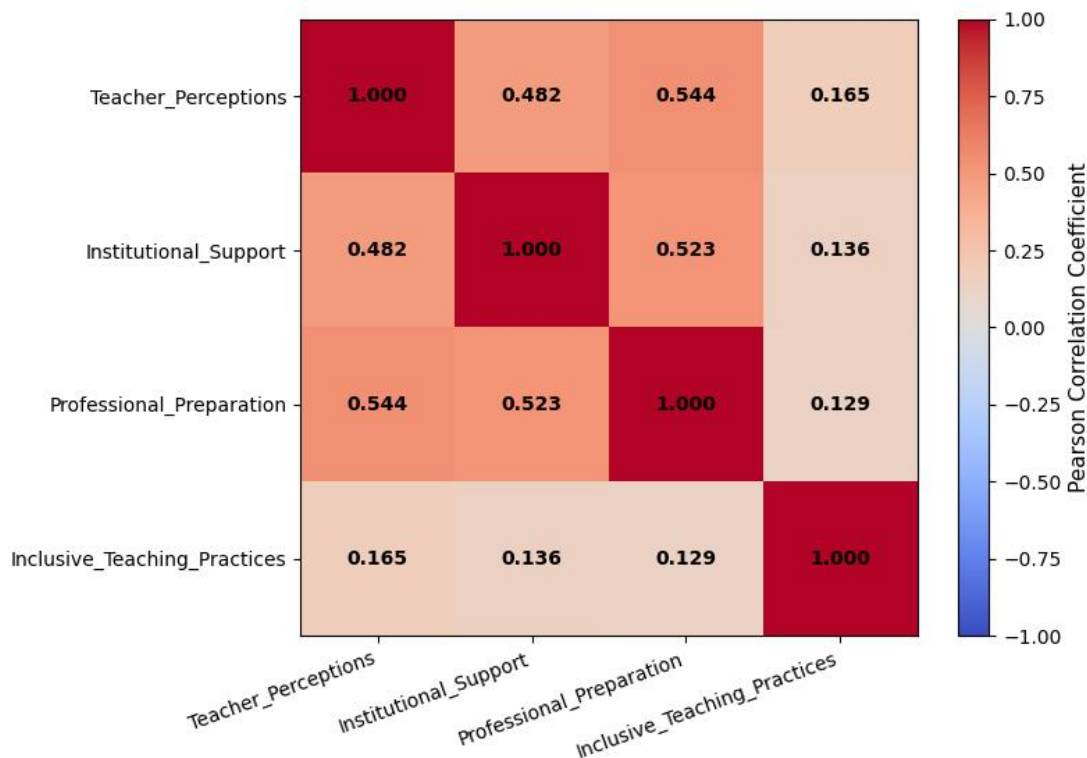
**Figure 2. Heatmap of Pearson Correlation**

Figure 2 illustrates the Pearson correlation matrix among the study constructs. Teacher Perceptions demonstrated moderate positive correlations with Professional Preparation ($r = .544$) and Institutional Support ($r = .482$), whereas Inclusive Teaching Practices showed weak but statistically significant positive relationships with all three predictor variables ($r = .129-.165$).

3.5 Multiple Regression Analysis

Multiple linear regression was performed to investigate if the teacher's perceptions, institutional supports and professional preparation were significant predictors of inclusive teaching practices. The regression model was not statistically significant, $F(3, 228) = 2.525$, $p = .058$ and accounted for only 3.2% of the variance in inclusive teaching practices ($R^2 = .032$, Adjusted $R^2 = .019$).

All three predictors had a medium to large, standardized regression coefficient (β values of .039, .106, and .118, respectively) although only that of teacher perceptions was statistically significant ($t = 1.456$, $p = .147$). The effect of institutional support was found to be non-significant ($\beta = .063$, $t = 0.786$, $p = .433$), and the effect of professional preparation was the weakest ($\beta = .033$, $t = 0.392$, $p = .696$). For all regression weights, the 95% confidence intervals contained the null value of zero, which further supported the notion that none of the predictors was uniquely predictive of inclusive teaching practices after controlling for the other predictors.

Table 4. Multiple Regression Results

Predictor	B	β	t	p
Teacher Perceptions	0.085	.118	1.456	.147
Institutional Support	0.051	.063	0.786	.433
Professional Preparation	0.023	.033	0.392	.696

3.6 Hypothesis Testing

The multiple regression results were used to test the proposed hypotheses. A Pearson correlation analysis showed that there were weak and positive relationships between inclusive teaching practices and all predictors, but none of the predictors remained a significant predictor when the other independent variables were taken into account. Therefore, all three hypothesis were rejected.

Table 5. Hypothesis Testing Results

Hypothesis	Decision
H1: Teacher perceptions positively predict inclusive teaching practices.	Not Supported
H2: Institutional support positively predicts inclusive teaching practices.	Not Supported
H3: Professional preparation positively predicts inclusive teaching practices.	Not Supported

While teachers with more positive perceptions, higher institutional support and higher professional preparation were slightly more likely to report higher levels of inclusive teaching practices, these variables did not account for meaningful variation in inclusive teaching practices within this sample.

4. Discussion

The purpose of this study was to determine the predictive role that teachers' perception of inclusive education, institutional support and preparation for inclusive education may have on inclusive teaching practices among teachers in Ecuador. Weak but statistically significant positive relationships were found between each predictor and inclusive teaching practices through Pearson correlation analysis, however the multiple regression model was not statistically significant. The three predictors collectively accounted for only 3.2% of the variance in inclusive teaching practices and were not significant unique predictors when the others were controlled. The results indicate that there may be other contextual, organizational and individual factors that affect inclusive teaching practices that are not the focus of this research.

The results only partially confirm the premises of Social Cognitive Theory (Bandura) that personal beliefs and thoughts influence behaviour, the environment influences behaviour, and behaviour influences personal beliefs and thoughts (de la Fuente et al., 2023). Teachers with more positive perception, institutional support and teaching preparation tended to report more inclusive teaching practices, but this difference did not explain alone the teachers' teaching practices. This means that the translation of positive beliefs into classroom action is not as straightforward as individual beliefs and requires enabling organizational conditions and opportunities for ongoing professional learning (Koutroubas & Galanakis, 2022; Wang et al., 2022).

The finding of a positive relationship between teacher perceptions and inclusive teaching practices is consistent with a previous study that found positive attitudes toward inclusive education to have a positive relationship with being more inclined to adopt inclusive teaching methods. Teachers who think that enabling students with special educational needs and learning difficulties in the classroom is a good practice tend to be more motivated to make the necessary changes in their teaching style and classroom to accommodate student diversity (Florian & Camedda, 2020). Likewise, systematic evidence and research show that teacher preparation positively impacts teacher confidence and readiness to work in inclusive classrooms (Tristani & Bassett-Gunter, 2020). Positive perceptions,

however, do not necessarily lead to regular classroom practice when other factors are present that limit their regular use, since there was no significant regression effect.

Other variables measured did not significantly explain inclusive teaching practices after controlling professional preparation. This result is different from other studies that showed that professional development improves teachers' instructional competence and implementation fidelity (Harrington et al., 2025). The possibility is that teachers may have a theory about inclusive education but are not given opportunities for ongoing coaching, mentoring in the classroom, or implementation practice. Professional development that encourages continuous practice, collaborative reflection and feedback is more likely to shift teaching behavior than an individual, one-off professional learning session (Tristani & Bassett-Gunter, 2020; Harrington et al., 2025).

Institutional support was only slightly correlated with inclusive teaching practices and was not a significant predictor in the multivariate model. This is a finding that contrasts with the previously mentioned research that emphasises the role of supportive leadership, collaborative school culture and organizational resources in inclusive teaching. School leaders are key to fostering learning environments that enhance teachers' skills, teamwork, and teaching innovation (Liu et al., 2021). Similarly, principals' self-efficacy and positive school climate are found to be related to the development of collective teacher efficacy, which in turn positively contributes to the quality of teaching and inclusive school practices (Yada & Savolainen, 2023). The low predictive value found in this study could suggest that institutional support is not enough to create effective implementation strategies without having the support of collaborative professional cultures and resource allocation (Rulfs & Wobbe, 2023).

One additional reason for the lack of significance in the regression results may be because inclusive teaching practice is influenced by factors outside of the scope of this model. The study focused on several factors that have been found to significantly impact teachers' instructional choices and behavioral practices, such as teacher self-efficacy, organizational climate, leadership capacity, workload, occupational stress, and emotional health (Jentsch et al., 2023; DeMatthews et al., 2021). Teachers' ability to use inclusive pedagogies, despite having positive attitudes and sufficient professional preparation, can be negatively affected by high levels of stress and burnout. In light of these findings, future research is recommended to use more comprehensive explanatory models which address psychological, organizational and contextual variables.

The moderate institutional support and professional preparation for inclusive teaching practices were reported, yet the relatively high average scores for inclusive teaching practices suggest the teachers were inclined to report using inclusive instructional practices more often. The pattern could suggest that a very large number of teachers primarily use their professional commitment to learners, their personal experience of teaching and their intrinsic motivation rather than formal institutional arrangements to accommodate the diversity of learners in their teaching. It is such findings that underscore the importance of systemic conditions that support teachers to translate inclusive values into enduring classroom practice along with the teacher's characteristics (Florian & Camedda, 2020; Liu et al., 2021).

5. Conclusion

The aim of this study was to analyze the effects that teachers' perceptions, institutional support, and teacher preparation have on inclusive teaching practices in Ecuador, with the theoretical framework of Social Cognitive Theory (SCT). The results revealed high internal consistency for all the measurement constructs and a positive teacher perception of inclusive education with a relative high level of inclusive teaching practices. The Pearson correlation analysis found weak but significant positive relationships between teacher perceptions, institutional support, teacher professional preparation, and inclusive teaching practices. However, multiple regression analysis showed that these variables did not significantly explain the variance of inclusive teaching practices together and only accounted for a small portion of variance. The results indicated that although positive attitudes, supportive institutional environment and professional preparation are all important in the process of the implementation of inclusive education, they cannot be used solely to explain teachers' classroom practices. The process of implementation of inclusive education seems to be multidimensional and

depends on other contextual, organizational and psychological factors like teacher self-efficacy, school leadership, collaborative culture, availability of resources, conditions within the workplace. Policymakers and educational leaders should therefore go beyond professional development initiatives and encourage comprehensive institutional strategies to foster collaborative leadership, ongoing professional learning, and nurturing school cultures that support teaching and learning. Future studies should use more complex explanatory models that include the interaction with mediating and moderating variables and longitudinal research designs to gain a deeper understanding of the complex mechanisms that foster sustainable inclusive teaching practices in various educational contexts.

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