Inclusive Curriculum Implementation in Chinese High Schools: Teacher Preparedness, School Environment, and the Mediating Role of Teacher Self-Efficacy

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HOW TO CITE:
Zhao Yi, Amelia Binti Alias, Khairul Azhar Bin Jamaludin (2026). Inclusive Curriculum Implementation in Chinese High Schools: Teacher Preparedness, School Environment, and the Mediating Role of Teacher Self-Efficacy. International Journal of Special Education, 41(8s), 1051-1058

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ABSTRACT:
Inclusive education has been strongly promoted in Chinese high schools, yet classroom practice remains uneven. This quantitative cross-sectional study examined how teacher preparedness and school environment relate to inclusive curriculum implementation, with teacher self-efficacy tested as a mediator. Five predictors—teacher training, administrative support, material availability, class size (perceived manageability), and teacher attitudes—were modelled together with teacher self-efficacy and inclusive curriculum implementation. Data were collected from 400 high school teachers across several Chinese provinces using a validated five-point Likert questionnaire measuring seven constructs, and analysed through descriptive statistics, Cronbach's alpha, Pearson correlation, multiple regression, and Baron and Kenny mediation with Sobel tests and bootstrap estimation. All five predictors significantly and positively predicted implementation, with teacher attitudes the strongest (β = .282) and class size the weakest (β = .167). Teacher self-efficacy was the strongest single predictor (β = .459) and significantly partially mediated all five relationships. The findings extend Social Cognitive Theory and Organizational Support Theory to the Chinese high school context and indicate that strengthening teacher confidence, alongside training, leadership support, resources, and manageable class sizes, is central to translating inclusive policy into classroom practice.

Keywords: inclusive education, teacher self-efficacy, teacher preparedness, school environment, China.

1. Introduction

Inclusive education has become a central goal of global education reform, reflected in Sustainable Development Goal 4 and its call for inclusive and equitable quality education for all learners (Adipat & Chotikapanich, 2022; Tonegawa, 2022). In China, inclusive education has gained policy momentum over the past two decades, with national reforms promoting fairness and access for students with diverse learning needs (Zhang & Miao, 2022; Qu, 2024). Classroom practice, however, remains uneven. High schools are particularly underexplored, even though strong examination pressure, heavy workloads, and large classes make

inclusion especially demanding at this level (Han & Cumming, 2022; Ji, 2024). Teachers frequently report insufficient practical training, weak administrative support, scarce adapted materials, and large classes as barriers to inclusive teaching (Li et al., 2022; Qu, 2022).

This study frames teacher preparedness and school environment as the dual pillars of inclusive practice. Teacher training, attitudes, and self-efficacy represent preparedness, whereas administrative support, material availability, and class size represent environmental conditions. International evidence consistently links these factors to inclusion: structured training builds skill and confidence (Crispel & Kasperski, 2021; Paju et al., 2022); supportive leadership shapes an inclusive school culture (Wang et al., 2022; Đuranović et al., 2024); adequate resources enable lesson adaptation (Sarker & Unzum, 2023); manageable class sizes allow individualised attention (Lakkala et al., 2021); and positive attitudes encourage inclusive strategies (Lacruz-Pérez et al., 2021; Dignath et al., 2022). Even well-resourced teachers, however, may not implement inclusion if they doubt their own ability, which positions teacher self-efficacy as a psychological mechanism linking preparedness and environment to practice (Woodcock et al., 2022; Savolainen et al., 2022).

Two theories underpin the study. Social Cognitive Theory (Bandura, 1986) treats self-efficacy as a proximal determinant of behaviour, explaining why teachers' beliefs about their own competence shape whether training and support are translated into action (Opoku et al., 2021; Chow, 2024). Organizational Support Theory (Eisenberger et al., 1986) explains how institutional conditions—leadership, resources, and workload—motivate and enable professional behaviour. Together, the two theories connect individual belief systems with school-level structures.

Despite an extensive literature, important gaps remain. Most studies examine isolated predictors rather than integrating preparedness and environment within a single model; the mediating role of self-efficacy is widely theorised but rarely tested empirically, particularly in exam-oriented Chinese high schools; and Chinese evidence is often descriptive rather than based on statistical modelling (Lindner et al., 2023; Arnaiz-Sánchez et al., 2023; Xie et al., 2024). This study addresses these gaps by testing a theory-driven mediation model. Two objectives guide the research: (RO1) to examine the direct effects of teacher training, administrative support, material availability, class size, and teacher attitudes on inclusive curriculum implementation; and (RO2) to examine whether teacher self-efficacy mediates these relationships. Accordingly, H1–H5 propose that each of the five factors positively predicts implementation, and H6 proposes that teacher self-efficacy mediates all five relationships.

2. Methodology

Design. A quantitative cross-sectional survey design was adopted to test the direct and mediated relationships among the study variables at a single point in time. This design is appropriate for measuring perceptions and practices across a large sample efficiently and is consistent with prior inclusive-education survey research (Maier et al., 2023; Al-Naabi & Al-Abri, 2021).

Participants and sampling. Participants were full-time high school teachers from public and private schools across several Chinese provinces. Purposive sampling combined with stratified random selection was used to improve representativeness across region, school type, and teaching subject (Ahmed, 2024). Only teachers with more than five years of experience were eligible, on the assumption that experienced teachers report more reliably on classroom practice (Toropova et al., 2021). The required sample size was established using an a priori power analysis in G*Power (multiple regression, six predictors, $\alpha = .05$, power = .80, $f^2 = .15$) and the Krejcie and Morgan (1970) table for the estimated population of experienced teachers; a target of 400 was set to exceed both thresholds. After screening, 400 valid responses were retained. Respondents were 56.5% female and 43.5% male, were mostly aged 31–45 years, taught across five subject areas, and worked in settings ranging from provincial capitals to rural areas.

Instruments. A structured questionnaire measured seven constructs with five items each (35 Likert-scale items; 1 = strongly disagree to 5 = strongly

agree). Items were adapted from validated scales: teacher training (Rojo-Ramos et al., 2023), administrative support (Đuranović et al., 2024), material availability (Alnahdi et al., 2021), class size (Almulla, 2015), teacher attitudes (Forlin et al., 2011), teacher self-efficacy (Sharma et al., 2012), and inclusive curriculum implementation (Sharma et al., 2021). Class size was operationalised as perceived class-size manageability rather than the raw number of students, so that a higher score indicates a class experienced as more manageable for inclusive teaching. A demographic section preceded the construct items, and minor wording changes adapted the items to the Chinese high school context.

Procedure. Items were drafted from validated scales, checked for contextual clarity, and refined through a pilot study with 30 teachers. The questionnaire was administered online and distributed mainly through WeChat together with teacher associations and school networks. Each respondent received a statement of purpose, an estimated completion time, and a guarantee of anonymity, and provided electronic informed consent before proceeding. Because every item required a response, no missing data were present; after removing incomplete, duplicate, and clearly invalid submissions, 400 valid cases remained. The study observed informed consent, confidentiality and anonymity, non-maleficence, and responsible data use.

Data analysis. Data were analysed in SPSS. Descriptive statistics summarised the sample and constructs; Cronbach's alpha assessed internal consistency (≥ .70 acceptable); Pearson correlation examined bivariate associations; and multiple regression tested the predictive contribution of the five factors to implementation and to self-efficacy. Mediation was tested with the Baron and Kenny (1986) procedure, supplemented by Sobel tests and bias-corrected 95% confidence intervals from 5,000 bootstrap resamples to confirm the significance of each indirect effect (Hayes & Rockwood, 2020).

3. Results

Reliability and descriptive statistics. All seven scales showed acceptable to excellent internal consistency, with Cronbach's alpha values from .849 to .942 (Table 1); the Teacher Attitudes scale, which returned a lower pilot alpha (.675), was revised and reached .878 in the main study. All construct means exceeded 3.0. Teacher attitudes recorded the highest mean (M = 3.71), followed by inclusive curriculum implementation (M = 3.57) and teacher self-efficacy (M = 3.48), while class size recorded the lowest mean (M = 3.03), indicating the least favourable condition in the sample.

Table 1. Descriptive statistics and reliability of the seven constructs

Construct	M	SD	Cronbach's α
Teacher training (TT)	3.38	0.42	.849
Administrative support (AS)	3.40	0.52	.894
Material availability (MA)	3.32	0.50	.889
Class size (CS)	3.03	0.48	.872
Teacher attitudes (TA)	3.71	0.48	.878
Teacher self-efficacy (SE)	3.48	0.69	.942
Inclusive curriculum implementation (IC)	3.57	0.69	.942

Note. N = 400. Each construct was measured by five five-point Likert items. CS reflects perceived class-size manageability (higher = more manageable).

Correlations. All variables were significantly and positively correlated ($p < .01$; Table 2). Each independent variable correlated positively with implementation, ranging from r = .445 (class size) to r = .598 (teacher attitudes). The strongest association in the matrix was between teacher self-efficacy and implementation (r = .774), consistent with the proposed mediating role of self-efficacy.

Table 2. Pearson correlation matrix

	TT	AS	MA	CS	TA	SE	IC
TT	1						
AS	.40	1					
MA	.42	.52	1				
CS	.27	.37	.35	1			
TA	.51	.38	.37	.29	1		
SE	.58	.48	.50	.43	.63	1	
IC	.60	.54	.54	.45	.60	.77	1

Note. N = 400. All correlations are significant at $p < .01$ (two-tailed). Construct abbreviations are defined in Table 1.

Direct effects. The five predictors jointly explained 59.2% of the variance in implementation, $R^2 = .592$, $F(5, 394) = 114.31$, $p < .001$. All five were significant positive predictors (Table 3). Teacher attitudes was the strongest ($\beta = .282$), followed by teacher training ($\beta = .261$), administrative support ($\beta = .180$), material availability ($\beta = .177$), and class size ($\beta = .167$). Variance inflation factors (1.23–1.54) indicated no multicollinearity. The same five predictors also significantly predicted teacher self-efficacy, $R^2 = .564$, $F(5, 394) = 101.81$, $p < .001$, with teacher attitudes again the strongest ($\beta = .354$). Hypotheses H1–H5 were therefore supported.

Table 3. Multiple regression: predictors of inclusive curriculum implementation

Predictor	B	SE	β	t	p	VIF
Teacher training	0.427	0.065	.261	6.59	< .001	1.52
Administrative support	0.242	0.054	.180	4.51	< .001	1.54
Material availability	0.245	0.056	.177	4.42	< .001	1.54
Class size	0.243	0.052	.167	4.69	< .001	1.23
Teacher attitudes	0.404	0.056	.282	7.23	< .001	1.47
(Constant)	-1.740	0.225	—	-7.75	< .001	—

Note. N = 400. Dependent variable: inclusive curriculum implementation. $R^2 = .592$, $F(5, 394) = 114.31$, $p < .001$.

Mediation. Teacher self-efficacy alone explained 60.0% of the variance in implementation ($\beta = .774$). When the five predictors and self-efficacy were entered together, the model explained 68.4% of the variance, $R^2 = .684$, $F(6, 393) = 141.74$, $p < .001$, and self-efficacy was the strongest predictor ($\beta = .459$). The coefficients of all five predictors were reduced relative to the direct model but remained significant, indicating partial mediation. The Sobel tests and bootstrap confidence intervals confirmed that all five indirect effects through self-efficacy were significant (Table 4). The largest indirect effect was for teacher attitudes ($a \times b = 0.233$) and the smallest for administrative support ($a \times b = 0.067$); the proportion of each total effect carried through self-efficacy ranged from approximately 28% (administrative support) to 58% (teacher attitudes). H6 was therefore supported.

Table 4. Indirect effects on inclusive curriculum implementation through teacher self-efficacy

Predictor (→ SE → IC)	a	b	a×b	Sobel z	p	95% CI (bootstrap)
Teacher training	0.395	0.459	0.181	5.16	< .001	[0.119, 0.251]
Administrative support	0.146	0.459	0.067	2.53	.011	[0.018, 0.121]
Material availability	0.214	0.459	0.098	3.52	< .001	[0.042, 0.157]
Class size	0.245	0.459	0.113	4.21	< .001	[0.064, 0.164]
Teacher attitudes	0.508	0.459	0.233	6.79	< .001	[0.171, 0.301]

Note. N = 400. a = predictor → self-efficacy; b = self-efficacy → implementation (all predictors controlled); a×b = indirect effect. Confidence intervals are bias-corrected and based on 5,000 bootstrap resamples. Each direct effect remained significant in the full model, indicating partial mediation.

4. Discussion

The results show that all five preparedness and environmental factors are significant positive predictors of inclusive curriculum implementation, but that they do not contribute equally. The two preparedness-related beliefs—teacher attitudes and, indirectly, training—were more strongly associated with practice than the structural conditions of support, resources, and class size. This pattern suggests that, within Chinese high schools, what teachers believe and how well they are prepared are more proximal to inclusive practice than school conditions alone, echoing evidence that attitudes and preparation are central drivers of inclusion (Dignath et al., 2022; Crispel & Kasperski, 2021).

The most theoretically meaningful finding is that teacher self-efficacy was the strongest single predictor of implementation and partially mediated all five relationships. This is consistent with Social Cognitive Theory, which positions self-efficacy as the proximal mechanism through which personal and environmental influences are translated into behaviour (Bandura, 1986; Woodcock et al., 2022). The indirect path was strongest for teacher attitudes, indicating that confidence is especially important in converting positive attitudes into classroom action, and weakest, though still significant, for administrative support. At the same time, the persistence of significant direct effects after self-efficacy was added indicates that school-level conditions also operate through routes beyond teacher confidence, supporting Organizational Support Theory and its claim that institutional support shapes professional behaviour directly as well as motivationally (Eisenberger et al., 1986; Wang et al., 2022).

These findings carry several practical and policy implications. Because all five predictors mattered, no single intervention is sufficient; a coordinated approach is required. Teacher education and in-service units should replace short, policy-oriented briefings with practical inclusive-education modules that include differentiated planning, classroom management for diverse learners, and adapted assessment, followed by supervised classroom application. Because attitudes and self-efficacy were central, schools should invest in confidence-building through structured mentoring, peer observation, and collaborative planning. School leaders should translate inclusion from policy into concrete management actions, including resource allocation and recognition of teachers' inclusive efforts, while education authorities should fund adapted materials for under-resourced and rural schools and treat class-size reduction as structural reform through staffing ratios or co-teaching. Theoretically, the study extends Social Cognitive Theory and Organizational Support Theory jointly to the Chinese high school context, showing that inclusive practice is best explained by the interaction of psychological and organizational factors.

Several limitations should be noted. The cross-sectional design identifies associations but cannot establish causal direction or change over time. Reliance on self-report may introduce social-

desirability bias, as teachers may report more favourable attitudes or practices than they enact. The sample was confined to Chinese high schools, which limits generalisation to other levels or systems. Finally, although the Baron and Kenny procedure was supplemented by Sobel and bootstrap tests, structural equation modelling could model the full system of relationships more comprehensively in future work.

5. Conclusion

This study examined how teacher preparedness and school environment relate to inclusive curriculum implementation in Chinese high schools, with teacher self-efficacy as a mediator. Teacher training, administrative support, material availability, class size, and teacher attitudes each significantly and positively predicted implementation, with teacher attitudes the strongest and class size the weakest predictor. Teacher self-efficacy was the strongest single predictor and significantly partially mediated all five relationships, indicating that preparedness and environmental conditions influence inclusive practice both directly and indirectly through teachers' confidence.

The findings indicate that improving inclusive curriculum implementation requires the integration of psychological and organizational approaches rather than attention to policy or resources alone. Future research should employ longitudinal and mixed-method designs, test the model in primary, vocational, and higher-education settings and across urban and rural contexts, incorporate additional factors such as school culture, teacher collaboration, and parental involvement, and apply structural equation modelling to capture the system of direct and indirect effects more fully.

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