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ARTICLE

Striving for personal growth matters: The relationship between personal growth initiative, teacher engagement and instructional quality

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Abstract

Background: Teachers' instructional quality is critical to student learning and development. However, the affordance of different aspects of instructional quality remains underexplored.

Aims: This study explores the relationship between teachers' personal growth initiative (PGI) and teacher engagement and instructional quality.

Sample: The data were collected from 998 teachers (82.9% female, average years of teaching experience = 15.25, *SD* = 10.29) from China.

Methods: The participants completed an anonymous online survey questionnaire that examined their PGI, work engagement and self-reported instructional quality. Structural equation modelling and bootstrapping were performed to determine the differentiated associations between PGI and each aspect of the teachers' self-reported instructional quality.

Results: The results confirmed the critical role of PGI in teacher engagement and self-reported instructional quality. To varying degrees, the dimensions of teacher engagement, except for cognitive engagement, mediated the association between PGI and self-reported instructional quality.

Conclusions: The teachers' self-reported data showed that their motivation for personal growth played an important role in improving their instructional quality. The teachers' emotional engagement and social engagement with colleagues were positively related to classroom management, and their social engagement with students was associated with a supportive climate.

KEYWORDS

instructional quality, personal growth initiative, proactivity, teacher engagement

Highlights

- PGI had the strongest relationship with the teachers' self-reported behaviour regarding the creation of a supportive climate.
- PGI was positively related to the teachers' self-reported behaviour regarding classroom management and cognitive activation.
- Social engagement with colleagues mediated the association between PGI and the teachers' self-reported classroom management behaviour.
- Social engagement with students mediated the relationship between PGI and the teachers' self-reported supportive climate construction behaviour.

INTRODUCTION

Researchers and practitioners have long recognized teachers' instructional quality as the critical determinant of student learning and development (Burić & Kim, 2020; Fauth et al., 2014; Kunter et al., 2013; Nilsen & Gustafsson, 2016). Several factors that motivate teachers' instructional quality have been investigated, including teacher self-efficacy (Burić & Kim, 2020), enthusiasm for teaching (Baier et al., 2019) and self-regulation (Kunter et al., 2013). However, investigations of the motivational antecedents of teachers' instructional quality have been limited (Blömeke et al., 2020).

The human resource literature has recently highlighted the motivational potential of proactivity and its significant impact on individuals' job performance and overall well-being (Lichtenthaler & Fischbach, 2019; Parker et al., 2019; Rooks et al., 2016). The research has suggested that proactivity can provide a critical perspective that explains why individuals in a fast-paced environment initiate interactions with their environment that enable them to fit in and make a contribution (Bakker & Demerouti, 2017; Tornau & Frese, 2013; Zhang & Parker, 2022). Among various proactivity concepts, personal growth initiative (PGI), which refers to individuals' positive and proactive stance towards change and continuous self-improvement (Meyers et al., 2015; Robitschek & Keyes, 2009), has repeatedly been confirmed as critical to both career development (Griep et al., 2022; Matsuo, 2019a; Weigold et al., 2013) and psychological, social and emotional well-being (Danitz et al., 2018; Robitschek et al., 2012; Weigold et al., 2020). In the field of teacher education, few studies have investigated teachers' PGI and its relationship with their job performance, and fewer research has investigated the relationship between PGI and instructional quality. Therefore, it is vitally important to explore the extent to which teachers have PGI and whether PGI is positively related (or otherwise) to the quality of their instruction.

Teacher engagement is a work-related positive state of mind that represents the extent to which teachers feel energetic, along with how dedicated and engrossed in their work they are (Klassen et al., 2012). Because teacher engagement is primarily a function of personal motivation (Bakker & Bal, 2010; Schaufeli & Salanova, 2011) and influences instructional quality (Kunter et al., 2013), we postulate that teacher engagement mediates the association between teachers' PGI and teachers' instructional quality.

To date, studies of the impact of PGI on work engagement and role behaviour have been theoretical in nature, leaving the association between PGI and teacher performance empirically unestablished, at least for the most part. Accordingly, we are among the first to fill this research gap by investigating the relationship between teachers' PGI, their engagement and their self-reported instructional quality. This article makes at least two significant contributions to the literature. Firstly, we investigate the extent to which the teachers showed PGI, along with the association between PGI and three aspects of the teachers' self-reported instructional quality. Secondly, we examined how different dimensions of teacher engagement mediated the relationship between PGI and self-reported instructional quality. The study has

practical significance because of its valuable implications for supporting teachers' PGI and engagement. These implications can support educators and teachers in their efforts to promote instructional quality.

BACKGROUND

Instructional quality

Instructional quality concerns the features of teachers' instructional behaviour that are positively associated with student learning and development (Fauth et al., 2014; Hattie, 2008). Teachers' instructional quality is positively related to students' learning motivation (Burić & Kim, 2020; Retelsdorf et al., 2014), academic achievement (Hattie, 2008; Kunter et al., 2013) and socio-emotional well-being (Tennant et al., 2015). Based on the 'global dimensions of classroom process quality' model (Lipowsky et al., 2009), instructional quality has the following three aspects: classroom management, cognitive activation and supportive climate (Burić & Kim, 2020; Pianta & Hamre, 2009; Praetorius et al., 2018). *Classroom management* is the extent to which teachers can structure and organize their instruction and manage student behaviour to maximize student learning time (Schlesinger & Jentsch, 2016), increase student motivation (Burić & Kim, 2020) and boost student achievement (Seidel & Shavelson, 2007). *Cognitive activation* is teachers' ability to use challenging tasks or questions to improve their students' higher-order thinking skills, foster their in-depth understanding of learning content and stimulate their explorations of ideas and concepts (Baumert et al., 2010; Schlesinger & Jentsch, 2016). Finally, a *supportive climate* is teachers' ability to enhance student learning motivation and well-being (Praetorius et al., 2018) by providing constructive feedback, tactfully responding to mistakes and engaging in caring and equitable behaviour (Fauth et al., 2014; Praetorius et al., 2018).

Both school- and individual-level antecedents of instructional quality have been reported in the literature. At the school level, studies have reported that an emphasis on academic success, safety and order is foundational to instructional quality (Scherer & Nilsen, 2016). Notably, these studies have combined the three aspects of instructional quality. In contrast, when discussing the individual antecedents of instructional quality, most studies have separately investigated the antecedental mechanism of each aspect of instructional quality, painting a complicated picture. Teachers' goal-mastery orientation and self-efficacy have been consistently reported as factors that enable the three aspects of instructional quality (Burić & Kim, 2020; Josef et al., 2016). Some antecedents relating to one or two aspects of instructional quality have also been investigated, such as basic psychological need satisfaction (Holzberger et al., 2014), pedagogical knowledge (Schroeder et al., 2011; Stürmer et al., 2013), enthusiasm for teaching (Baier et al., 2019), teacher engagement and resilience (Kunter et al., 2013) and decision-making skills (Blömeke et al., 2020; Uckmaier et al., 2016).

Teacher engagement and instructional quality

Work engagement refers to individuals' 'positive, fulfilling, and work-related state of mind' regarding their work (Schaufeli et al., 2002, p. 74). Essentially, work engagement describes the extent to which individuals experience their work energetically, as something to which they want to devote their time and effort, as significant and meaningful, and as engrossing and worthy of a deep level of concentration (Bakker et al., 2008).

Firstly, the relationship between engagement and instructional quality can be supported by the theory of job demands and resources. Bakker and Demerouti (2017) posited that individuals' work engagement is the main driver of their role performance. The lagged effect of work engagement on role performance has also been demonstrated (Bakker & Bal, 2010). Secondly, engaged individuals experience positive emotions, including enthusiasm and joy (Schaufeli et al., 2009). Based on the broaden-and-build theory,

positive emotions can broaden individuals' momentary cognition-action repertoires and increase their personal resources, thus facilitating their role behaviour (Fredrickson, 2001; Fredrickson & Losada, 2005). Both longitudinal (Tims et al., 2015) and experimental studies (Hopstaken et al., 2016) have confirmed the positive impact of work engagement on individuals' job performance.

Klassen et al. (2013) developed four dimensions of teacher engagement that fit the characteristics of teachers' work in schools: cognitive engagement (the extent to which teachers are absorbed by and invest effort into their work), emotional engagement (the extent to which teachers have positive emotions during teaching), social engagement with students (the extent to which teachers are concerned and care about their students) and social engagement with colleagues (the extent to which teachers care about their colleagues and value collegial relationships). A generally positive association between teacher engagement and teaching performance has also been consistently reported (Bakker & Bal, 2010; Kunter et al., 2013). To the best of the authors' knowledge, no studies have examined how each dimension of teacher engagement is related to teachers' role performance. However, indirect support for the relationship between teacher engagement and instructional quality can be drawn from related studies. When teachers are cognitively absorbed in teaching and wish to maximize their effort in classroom instruction (*cognitive engagement*), they report increasing their support for student questions (Butler & Shibaz, 2008) and stimulating their students' cognitive development (Retelsdorf et al., 2010). When teachers experience a high level of enjoyment and interest in teaching (*emotional engagement*), they may be sensitive to the learning needs of their students and provide effective learning support and classroom management (Baier et al., 2019; Fauth et al., 2019). When teachers have good relationships with and show empathy to their students (*social engagement with students*), they may have good communication with them. Studies have demonstrated that both harmonious relationships and frequent communication between teachers and students are critical predictors of teachers' adaptive instruction to fulfil students' needs (Holzberger et al., 2014; Huang, 2021; Huang, Lin et al., 2022). If teachers have good relationships with their colleagues (*social engagement with colleagues*), they may have more opportunities to discuss teaching issues, which increases their professional knowledge and skills and thus their teaching effectiveness (Huang, Lin et al., 2022; Kyndt et al., 2016).

Personal growth initiative (PGI)

In the past 20 years, scholars have become increasingly interested in personal proactivity and have generated numerous relevant studies (see the review by Parker et al., 2019; Thomas et al., 2010). Various proactivity concepts have been developed, such as proactive personality (Bateman & Crant, 1993), personal initiative (Frese et al., 1997) and job crafting (Tims et al., 2014). These concepts have three common cores (Tornau & Frese, 2013). First, proactivity is action-oriented, which implies that proactive individuals engage in an active and self-initiated activity instead of reactive behaviour. Secondly, proactivity focuses on changes, and thus, proactive individuals are inclined to introduce or embrace changes in themselves or situations rather than wait for changes to occur. Thirdly, proactivity is future-focused, which highlights that individuals value possible changes or potential improvements in the future despite their current challenges or problems (Parker et al., 2019; Tornau & Frese, 2013). Most of the studies on personal proactivity have adopted a context/job-oriented approach, which means that they are concerned about how individuals' proactive behaviour changes their job and context. In contrast, PGI, which is also a proactivity concept, is self-oriented and focuses on how individuals emphasize and increase their personal development. Robitschek et al. (2012) argued that PGI refers to individuals' active intention to personally grow and change, along with a set of skills to work towards those goals. Individuals with PGI not only are aware of their personal development process but are also actively working to improve themselves in the domains that they consider important (Weigold et al., 2020). PGI contains both cognitive and behavioural components: the cognitive components refer to readiness for change and the self-regulation of ongoing personal growth, whereas the behavioural components focus on seeking external resources and displaying intentional behaviour directed towards self-change (Weigold et al., 2013). PGI is a strong

driver of psychological well-being and an effective buffer of stress across domains (Danitz et al., 2018; Robitschek et al., 2012). Furthermore, individuals' PGI can carry into different aspects of their life experience, including both in- and extra-role work experience and performance (Matsuo, 2019a; Weigold et al., 2020). Given that PGI implies a strong behavioural tendency, it influences the extent to which individuals seek to understand their context, identify potential learning opportunities and update their professional skills (Griep et al., 2022; Yakunina et al., 2013). Thus, PGI is also a strong driver of desirable work-related outcomes (Matsuo, 2019b; Robitschek & Keyes, 2009; Srivastava & Bajpai, 2020).

Linking PGI to engagement and instructional quality

The positive relationship between PGI and teacher engagement and instructional quality is supported by the conservation of resources (COR) theory, which assumes that individuals not only protect and retain valued resources but also seek to obtain new resources that they value. Resources can be any objects, conditions or things that individuals value (Hobfoll, 2001), which can vary significantly according to their personal experiences and situations (Halbesleben et al., 2014). Examples include professional development opportunities and social support. COR theory posits that the enrichment of resources based on an initial resource reservoir can create resource caravans (Hobfoll et al., 2003). Stimulated by PGI, individuals' proactive behaviour can result in gradually gaining access to and accumulating self-improvement resources (Brenninkmeijer & Hekkert-Koning, 2015). To a large extent, the resources for teachers may cover their professional knowledge and competence (Huang, Sun et al., 2022), boosting their work engagement (Halbesleben, 2010) and affecting their instructional quality (Kunter et al., 2013).

The positive association between PGI and teacher engagement can also be constructed from a motivational perspective. Given that the PGI-led activities are self-initiated, goal-directed and future-oriented (Bindl et al., 2012; Grant & Ashford, 2008), the motivational potential of PGI is closely related to individuals' positive functioning, better relationships and a greater sense of autonomy (Robitschek & Keyes, 2009), all of which drive their work engagement (Bakker & Demerouti, 2017). In a two-wave 3-year study, Hakanen et al. (2008) reported that individuals' initiatives positively influenced their work engagement. Moreover, PGI can buffer the impact of depression, anxiety and emotional distress (Weigold et al., 2018). PGI can also prevent psychological distress by causing individuals to perceive stressors as opportunities for personal growth (Danitz et al., 2018). With the belief that they can improve themselves by managing errors and stressful issues (Robitschek et al., 2012), individuals can maintain a high level of work engagement despite problems and challenges (Srivastava & Bajpai, 2020).

The positive impact of PGI on instructional quality has also been supported by general proactivity studies in various contexts (see the review by Lichtenthaler & Fischbach, 2019). By engaging in proactive behaviour, individuals can revise problematic procedures (Zhang & Parker, 2022) or optimize situations (Tims et al., 2014), thus improving their job performance. In teacher education, those who actively seek learning opportunities (Huang, 2021; Kyndt et al., 2016) or teaching development (Josef et al., 2016; Retelsdorf et al., 2014) have reported improved classroom teaching. Additionally, the positive relationship between PGI and teacher instructional quality is supported by the literature on self-regulation. Individuals who have a high level of PGI must manage their personal development by continuously reflecting on their daily experiences, evaluating their processes and refining their strategies to ensure their developmental effectiveness (Robitschek & Cook, 1999). For teachers, this metacognition and self-regulation are critical to their teaching performance (Huang, Lin et al., 2022; Kunter et al., 2013).

Based on both theoretical assumptions and prior studies, we hypothesize that teachers' PGI positively relates to the four dimensions of teacher engagement (cognitive engagement, emotional engagement, social engagement with students and social engagement with colleagues) (*H1*) and the three aspects of instructional quality (classroom management, cognitive activation and supportive climate) (*H2*). Furthermore, we hypothesize that the four dimensions of teacher engagement are positively associated with all three aspects of teachers' instructional quality (*H3*) (see Figure 1).

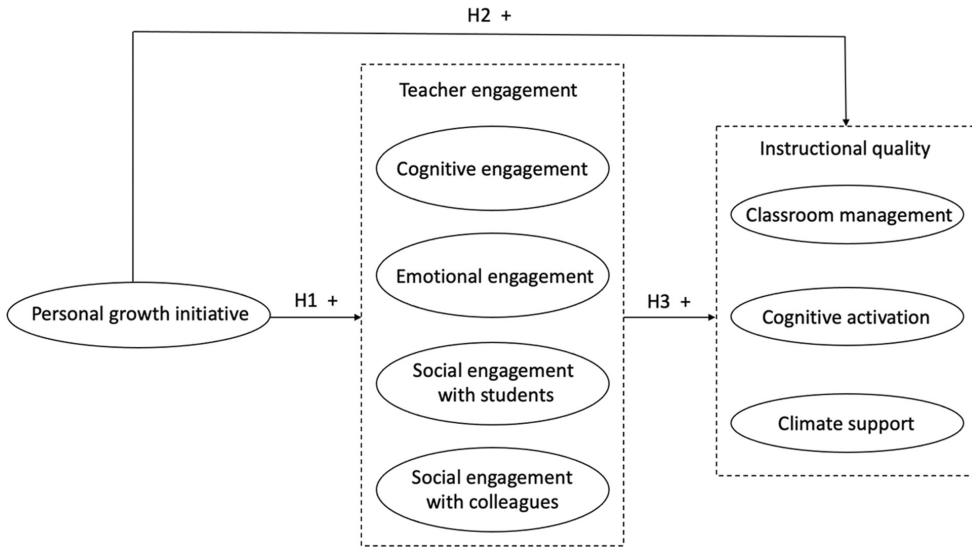

FIGURE 1 The conceptual model of the relationship between teachers' PGI, engagement and instructional quality

METHODS

Participants

Our sample consisted of 998 teachers recruited from Jilin province in Northeast China. The teachers, through their school principals, were given a link to an anonymous survey. All of the participants completed an online consent form before they answered the questionnaire. Most of the participants were female (82.9%), their average age was 38.19 (SD = 8.91) and their average teaching experience was 15.25 years (SD = 10.29). Most (72.6%) had a bachelor's degree, but some (16.3%) had a master's or doctoral degree. Part of the data for this study are also shared with another study (Huang, Wang, et al., 2022).

Measures

Personal growth initiative

To assess teachers' PGI, the study used the Personal Growth Initiative Scale II (Robitschek et al., 2012) with 16 items (a = .98). The scale's validity is supported by prior studies (Weigold et al., 2013; Yakunina et al., 2013). A sample item includes 'I can tell when I am ready to make specific changes in myself'. The participants' responses were rated on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

Teacher engagement

Teacher engagement was measured using the 16-item Engaged Teachers Scale (ETS) of Klassen et al. (2013). Four subscales, namely, cognitive engagement (4 items, e.g. 'I try my hardest to perform well while teaching', a = .97), emotional engagement (4 items, e.g. 'I am excited about teaching', a = .95), social engagement with students (4 items, e.g. 'In class, I show warmth to my students', a = .97) and social

engagement with colleagues (4 items, e.g. 'At school, I connect well with my colleagues', $a = .96$), were used to assess teachers' work engagement. The 4-factor structure has been confirmed in various educational settings (Silva Júnior et al., 2020; Yerdelen et al., 2018). The participants reported their engagement using a 7-point Likert scale ranging from 1 (*never*) to 7 (*every day*).

Instructional quality

Teachers' instructional quality was assessed using the instructional quality scale developed by Kunter et al. (Baier et al., 2019; Kunter et al., 2013). In this study, we used the teachers' self-reported data. Considering our large sample, in addition to parsimony and face validity, the teachers' self-reported rating has predictive validity (Josef et al., 2016; Kunter & Baumert, 2006). That rating consists of three dimensions: classroom management (six items, e.g. 'In the lessons, teaching is very often interrupted', $a = .94$), cognitive activation (13 items, e.g. 'I often ask if anyone has found a different way of solving a problem', $a = .93$) and supportive climate (10 items, e.g. 'I always address students' problems', $a = .94$). This construct has been extensively validated in previous studies (e.g. Baumert et al., 2008; Kunter & Voss, 2013). The scores on each dimension were calculated to indicate the teachers' instructional quality. The participants reported their agreement with the items on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

Analyses

We first checked for the normality of the measurement items using a multivariate normality test, where the Mardia test rejected the null hypothesis of multivariate normality (Mardia, 1970). Hence, we used the robust maximum likelihood (MLR) estimator to address non-normality. We used confirmatory factor analysis (CFA) to test the validity of each scale, and we examined the measurement model. We used scales with different numbers of points to minimize common method bias (Podsakoff et al., 2012). Because of the nature of self-reported data, Harman's single-factor test was used to check for common method variance (CMV). Next, to calculate the means and standard deviations of the studied variables and the correlations between them, we performed a descriptive statistical analysis. To test the hypotheses, structural equation modelling (SEM) was performed with MLR estimation. To further confirm the indirect effect of teacher engagement, a bootstrapping procedure with 2000 re-samplings was also used to obtain bias-corrected confidence intervals. The model fit was evaluated using the comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR). A value of at least .90 indicated an acceptable model fit for the CFI and TLI, and values of .08 or higher were acceptable for the RMSEA and SRMR. The analyses were performed using R 4.1 and Mplus 8.3.

RESULTS

Measurement validation and descriptive statistics

Because three items in the subscale of cognitive activation ('In the lessons, I sometimes accept mistakes and let students carry on until they see that something is wrong', 'I let students use their own strategies to solve difficult problems' and 'I let students solve problems according to their personal preferences') had factor loadings below .40, they were removed from the analysis (Pituch & Stevens, 2016). The results of our CFA showed an acceptable model fit for all three of the scales used in this study (personal growth initiative: $\chi^2 = 260.536$, $df = 86$, $p < .0001$, RMSEA = .045, CFI = .976, TLI = .967, SRMR = .02; teacher engagement: $\chi^2 = 250.385$, $df = 98$, $p < .0001$, RMSEA = .039, CFI = .970, TLI = .964, SRMR = .018; instructional quality: $\chi^2 = 1366.424$, $df = 294$, $p < .0001$, RMSEA = .060, CFI = .925, TLI = .917,

SRMR = .049), along with sufficiently high measurement weights of the items for the corresponding scales (see Appendix 1). The joint measurement model had a good model fit (χ^2 = 3460.195, *df* = 1547, $p < .0001$, RMSEA = .035, CFI = .952, TLI = .948, SRMR = .041). Regarding CMV, Harman's single-factor test indicated that the single-factor model fitted the data poorly (χ^2 = 24064.395, *df* = 1595, $p < .0001$, RMSEA = .119, CFI = .433, TLI = .413, SRMR = .145). A comparison of this model with a model of the studied substantial constructs shows that the latter notably improved the model fit ($\Delta\chi^2$ = 3058.316, Δdf = 28, $p < .001$, ΔRMSEA = .066, ΔCFI = −.455, ΔTLI = −.469, ΔSRMR = .104). Thus, the data did not indicate evidence of statistically detectable common method bias (Mossholder et al., 1998). The mean scores and standard deviations of each latent variable and the correlations between them are presented in Table 1.

The respondents reported a relatively high level of PGI (*M* = 5.02, *SD* = .88). Regarding instructional quality, they indicated that they engaged in more classroom management behaviours (*M* = 3.53, *SD* = .62) than cognitive activation behaviours (*M* = 3.22, *SD* = .59). The correlations between the variables ranged from .22 to .80 and were all statistically detectable.

SEM results

To test the relationship between the studied variables, SEM was performed while controlling for demographic characteristics, including gender, years of teaching experience and educational background. The model showed a good fit (χ^2 = 3714.712, *df* = 1700, $p < .0001$, RMSEA = .034, CFI = .951, TLI = .948, SRMR = .041). Figure 2 presents the path coefficients of the structural model.

PGI showed a statistically detectable and positive relationship with all four teacher engagement behaviours: cognitive engagement (β = .509, 95% CI: [.462, .557], $p < .001$, $s > 9.97$), emotional engagement (β = .551, CI: [.505, .597], $p < .001$, $s > 9.97$), social engagement with students (β = .534, CI: [.488, .580], $p < .001$, $s > 9.97$) and social engagement with colleagues (β = .484, CI: [.435, .533], $p < .001$, $s > 9.97$). PGI was also directly related to cognitive activation (β = .343, CI: [.277, .409], $p < .001$, $s > 9.97$) and a supportive climate (β = .453, CI: [.393, .513], $p < .001$, $s > 9.97$). Regarding the relationship between teacher engagement and instructional quality, teachers' emotional engagement (β = .143, CI: [.020, .266], p = .016, s = 5.97) and social engagement with colleagues (β = .272, CI: [.134, .409], $p < .001$, $s > 9.97$) were positively associated with classroom management, whereas their social engagement with students was positively associated with a supportive climate (β = .167, CI: [.028, .306], p = .016, s = 5.97).

TABLE 1 Descriptive statistics and correlations between studied variables.

Variables	*M*	*SD*	1	2	3	4	5	6	7
Personal growth initiative									
1. Personal growth initiative	5.02	.88							
Teacher engagement									
2. Cognitive engagement	6.53	.83	.53***						
3. Emotional engagement	6.37	.89	.55***	.77***					
4. Engagement with students	6.50	.81	.54***	.80***	.78***				
5. Engagement with colleagues	6.53	.82	.50***	.79***	.69***	.84***			
Instructional quality									
6. Classroom management	3.53	.62	.29***	.38***	.38***	.41***	.41***		
7. Cognitive activation	3.22	.59	.46***	.38***	.38***	.39***	.37***	.22***	
8. Supportive climate	3.35	.51	.57***	.43***	.43***	.45***	.40***	.30***	.70***

***$p < .001$ (2-tailed).

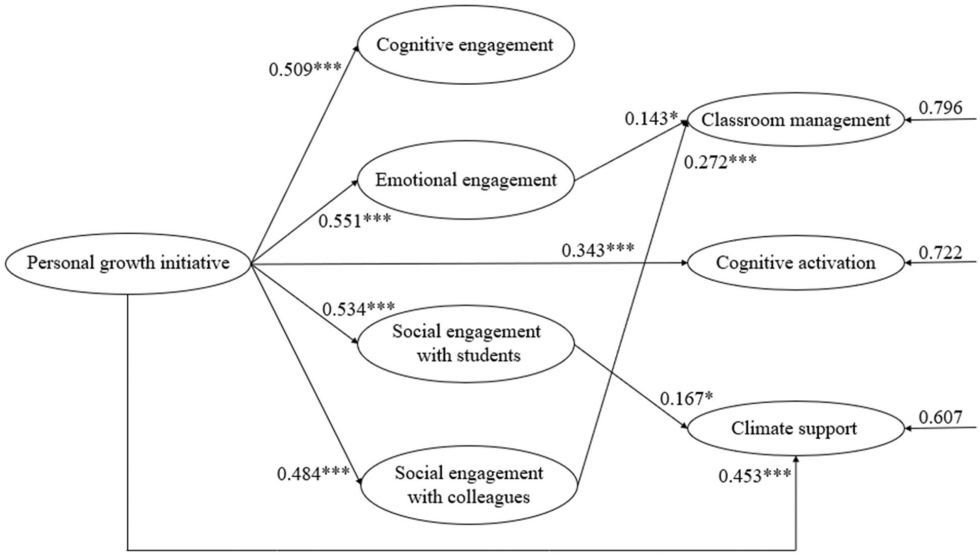

FIGURE 2 Standardized regression coefficients of SEM. Gender, years of teaching experience and educational background were controlled. *$p < .05$, **$p < .01$, ***$p < .001$

Bootstrapping analysis

To confirm the indirect effects of teacher engagement, a bootstrap analysis with 2000 replications was carried out. According to Hayes (2009), if zero does not fall between the lower and upper bounds of the 95% confidence interval, then the indirect effect is considered to be statistically detectable. The results showed that the teachers' PGI was linked to different dimensions of instructional quality through distinct work engagement behaviours (see Table 2). The relationship between PGI and classroom management was fully mediated by the teachers' emotional engagement ($\beta = .079$, CI: [.010, .145]) and social engagement with colleagues ($\beta = .132$, CI: [.066, .218]). The teachers' social engagement with students ($\beta = .089$, CI: [.022, .165]) partially mediated the relationship between PGI and a supportive climate. The results of the bootstrapping were highly consistent with those of the SEM.

DISCUSSION

This pioneering study explores teachers' proactive behaviour and its impacts by investigating how their PGI is associated with their engagement and instructional quality. This study substantially demonstrates the critical role of teachers' PGI in both their engagement and their self-reported instructional quality. Furthermore, PGI was linked to three aspects of instructional quality by different paths and to different degrees. Among the four dimensions of teacher engagement, emotional engagement and social engagement, rather than cognitive engagement, mediated the association between PGI and instructional quality.

Consistent with our hypothesis, the teachers reported that their PGI was positively related to all three aspects of instructional quality. This finding not only provides strong evidence of the critical role of PGI in job performance (Robitschek et al., 2012) but also advances the literature on instructional quality by confirming the importance of PGI. This is important because compared to the models constructed in previous studies ($R^2 = .12 – .22$ in Baier et al., 2019; $R^2 = .08 – .14$ in Holzberger et al., 2014), this study's model explains more of the variance in each dimension of instructional quality ($R^2 = .21 – .39$). This finding highlights the extent to which teachers have the active intention and skills to work towards personal

TABLE 2 Standardized indirect effects of the hypothesised model.

Indirect effect of PGI through teacher engagement	Estimate	*SE*	*p*	*s*	CI	
					Lower	Upper
To classroom management						
PGI → Cognitive engagement → Classroom management	−.018	.036	.613	.71	−.094	.049
PGI → Emotional engagement → Classroom management	.079	.033	.015*	6.06	.010	.145
PGI → Social engagement with students → Classroom management	.031	.041	.455	1.14	−.055	.114
PGI → Social engagement with colleagues → Classroom management	.132	.039	.001***	9.97	.066	.218
To cognitive activation						
PGI → Cognitive engagement → Cognitive activation	.033	.043	.431	1.21	−.048	.118
PGI → Emotional engagement → Cognitive activation	.022	.033	.510	.97	−.044	.092
PGI → Social engagement with students → Cognitive activation	.046	.038	.230	2.12	−.029	.133
PGI → Social engagement with colleagues → Cognitive activation	.034	.032	.283	1.82	−.030	.100
To supportive climate						
PGI → Cognitive engagement → Supportive climate	.037	.038	.331	1.60	−.038	.113
PGI → Emotional engagement → Supportive climate	.012	.030	.691	.53	−.044	.073
PGI → Social engagement with students → Supportive climate	.089	.037	.015*	6.06	.022	.165
PGI → Social engagement with colleagues → Supportive climate	−.007	.029	.815	.30	−.072	.049

Abbreviations: CI, 95% bias-corrected bootstrap confidence intervals; PGI, personal growth initiative.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

growth, which is crucial to their in-class teaching performance. Furthermore, this study uniquely found associations between PGI and three aspects of instructional quality.

Firstly, PGI has the strongest and most direct relationship with the teachers' self-reported behaviour regarding the creation of a supportive climate. Unsurprisingly, with the stimulation of PGI, individuals are frequently aware of their challenges and errors during the improvement process (Tornau & Frese, 2013). This awareness may equip teachers with a better understanding of their students' learning needs and problems, enabling them to provide students with specific and effective help in mastering difficult learning content. Furthermore, with a high level of PGI, individuals effectively seek resources and make practical plans for improvement (Robitschek et al., 2012). Moreover, they understand that these resource-seeking skills are important to their ability to make their own changes (Matsuo, 2019a). This authentic experience may also help teachers effectively guide their students to adopt various approaches, such as utilizing resources and making a feasible plan, to address learning challenges.

Secondly, the study's data highlighted that PGI is critical to teachers' self-reported classroom behaviour regarding cognitive activation. Given that individuals with strong PGI perceive errors as learning opportunities for improvement (Robitschek et al., 2012), teachers with a high level of PGI are inclined to encourage their students to reflect on and learn from their mistakes. Additionally, individuals with strong PGI are committed to personal improvement and changes, engaging in continuous self-regulation through which individual differences can be consciously detected (Robitschek & Keyes, 2009; Weigold et al., 2013). Teachers' in-depth understanding of individual differences can promote teaching behaviour that helps students formulate their own understanding of learning instead of merely adopting a standard approach.

Thirdly, our study showed that PGI was positively related to the classroom management behaviour reported by the teachers. This finding was expected because PGI has a positive relationship with problem-solving (Robitschek & Keyes, 2009), which may help teachers to organize their instruction and manage student behaviour more effectively. Notably, most of the association between PGI and the teachers' self-reported classroom management behaviour was mediated by teacher engagement, which is discussed in more detail below.

In alignment with our hypotheses, PGI is positively related to all four dimensions of teacher engagement, consistent with COR theory (Hobfoll et al., 2003). This finding is important given that the current engagement literature has discussed numerous job characteristics (Knight et al., 2017) but underexplored the issue of personal engagement resources (Lorente et al., 2014). This study emphasizes the importance of personal growth motivation to work engagement. For the teachers, the motivation to fulfil and actualize their own potential was closely related to their teaching tasks. With the positive functioning of PGI, teachers can accumulate additional resources (Hakanen et al., 2008) and arouse additional positive emotions (Robitschek & Keyes, 2009), both of which make substantial contributions to various dimensions of their engagement.

With respect to the relationship between teacher engagement and instructional quality, the results of this study are aligned with the theory of job demands and resources (Bakker & Bal, 2010; Tims et al., 2015). This study further advances the literature on work engagement by uncovering different associations between the four dimensions of teacher engagement and self-reported role performance. Notably, the teachers reported that none of the dimensions of teacher engagement was related to their cognitive activation behaviour, perhaps because cognitive activation behaviour requires teachers not only to highly value students' discursive perspectives but also to have high levels of pedagogical knowledge (Kunter et al., 2013) and professional teaching skills (Holzberger et al., 2014). Mere motivation and dedication to the various aspects of teaching do not ensure a teacher's commitment to the cognitive activation approach to teaching. Next, we found that only social engagement with colleagues and emotional engagement were positively related to the teachers' self-reported classroom management behaviour. According to the broaden-and-build theory (Fredrickson & Losada, 2005), when teachers can arouse positive emotions in teaching, they may be inclined to formulate more effective strategies for their instruction and management of the classroom. Moreover, social engagement with colleagues is closely related to teacher communication, through which teachers can access effective classroom management strategies (Huang & Lai, 2020) and improve their classroom management. Finally, only social engagement with students was positively associated with the teachers' self-reported supportive climate behaviour. This finding is understandable given that caring about student problems can improve teachers' understanding of their students' learning needs, which contributes to the construction of a more supportive climate.

Implications for practice

This study highlights the importance of teachers' proactivity to their job performance by confirming that their PGI was statistically detectably related to their engagement and self-reported instructional quality. This finding is relevant to the selection of students for teacher education programmes and the recruitment of teachers. Teacher candidates can be asked to use self-assessment tools to reflect on their own PGI. Furthermore, this study's findings imply that educational programmes should accommodate teachers' proactivity, especially PGI, in curriculum design, which can contribute to the effectiveness of teacher training. In the field of counselling and human resource management, various studies have explored the features of interventions that are effective in promoting individuals' PGI (Meyers et al., 2015; Weigold et al., 2020). These features and approaches can be applied to the design of educational programmes in the field of teacher education to improve PGI, thus contributing to teaching performance.

In-service teachers need to learn new approaches to manage each day's unexpected challenges (Timperley, 2015). To explore these new approaches, teachers should stop being reactive and become proactive (OECD, 2021). Hattie and Yates (2013) indicated that being proactive is a process of social learning. Therefore, it is necessary to integrate PGI with the professional learning of in-service teachers. For example, Friesen and Brown (2022a, 2022b) advanced design-based professional learning, which focuses on collective, collaborative and iterative design cycles, among teachers, administrators and researchers to improve teachers' professional learning. We suggest that the participants' PGI experience and strategies should be explicitly shared, discussed and supported throughout this process. Teachers' PGI can then be

effectively improved by social modelling and collegial support, which support their continuous professional learning and development (Hattie & Yates, 2013).

The complicated and varied associations between teachers' PGI, engagement and the three aspects of instructional quality provide support for the differentiated school development plan. If improving teachers' behaviour regarding cognitive activation is the focus of school development, principals may prioritize having a good understanding of teachers' PGI and introduce interventions to continuously support it. Moreover, school principals may consider how to connect teachers' personal growth experiences with their daily classroom teaching to activate student cognition. If schools wish to improve teachers' classroom management performance, they should focus on improving teachers' communication with their colleagues and incorporate classroom management topics into collegial discussions.

Limitations and future directions

This study has several limitations. Firstly, it is based on a cross-sectional design, making it impossible to draw a causal conclusion about the studied relationship. Longitudinal studies establishing a potential causal relationship between the studied constructs are warranted. Secondly, given that teachers' instructional quality is sensitive to other teacher or student factors (Baier et al., 2019; Kunter et al., 2013), future studies should accommodate additional teacher characteristics (such as teacher self-efficacy and pedagogical knowledge) and student variables (such as student misbehaviour and student motivational beliefs) (Burić & Kim, 2020). Thirdly, this study's data mainly rely on teachers' self-reports. The relationships between studied variables may suffer from artificial inflation due to CMV. Even though the study used procedural remedies such as anonymity, different rating scales and Harman's single-factor test to avoid bias due to CMV (Podsakoff et al., 2012), a more holistic understanding of the studied associations can be obtained by collecting data from teachers and students on the same variables in future studies. Lastly, cultural beliefs are closely related to individuals' work-related motivations (Klassen et al., 2010). Therefore, the generalization of this study's findings may be constrained due to cultural differences. Thus, similar studies in different contexts are needed to test, compare and verify our constructed model.

CONCLUSIONS

This study makes a significant contribution to the scarce empirical evidence on the relationship between teacher proactivity, engagement and instructional quality. The results emphasize the critical role of teachers' personal growth motivation in their instructional quality. Among the three aspects of teachers' self-reported instructional quality, PGI had the strongest relationship with a supportive climate, followed by cognitive activation and classroom management. In addition, only emotional engagement and social engagement with colleagues were positively related to classroom management, whereas social engagement with students was associated with a supportive climate. We call for more research on teacher proactivity and its other impacts across educational settings.

AUTHOR CONTRIBUTIONS

Xianhan Huang: Conceptualization; methodology; project administration; supervision; writing – original draft; writing – review and editing. **Si Man Lam:** Data curation; formal analysis; methodology; writing – original draft. **Chan Wang:** Conceptualization; formal analysis; methodology; writing – original draft. **Peng Xu:** Investigation; resources.

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CONFLICT OF INTEREST
All of the authors declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available upon reasonable request from the first author. The data are not publicly available due to privacy or ethical restrictions.

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APPENDIX 1: MEASUREMENT WEIGHTS OF EACH ITEM USED IN THE STUDY

Construct and item	Measurement weight
Personal growth initiative	
Item 1	.78
Item 2	.84
Item 3	.85
Item 4	.84
Item 5	.90
Item 6	.92
Item 7	.91
Item 8	.93
Item 9	.93
Item 10	.87
Item 11	.90
Item 12	.85
Item 13	.83
Item 14	.84
Item 15	.79
Item 16	.80
Teacher engagement	
Cognitive engagement	
Item 1	.89
Item 2	.96
Item 3	.96
Item 4	.94
Emotional engagement	
Item 1	.88
Item 2	.92
Item 3	.89
Item 4	.93
Social engagement with students	
Item 1	.93
Item 2	.94
Item 3	.96
Item 4	.91
Social engagement with colleagues	
Item 1	.93
Item 2	.96
Item 3	.93
Item 4	.91

Construct and item	Measurement weight
Instructional quality	
Classroom management	
Item 1	.78
Item 2	.91
Item 3	.90
Item 4	.88
Item 5	.87
Item 6	.78
Cognitive activation	
Item 1	.45
Item 2	.45
Item 3	.85
Item 4	.90
Item 5	.93
Item 6	.92
Item 7	.85
Item 8	.74
Item 9	.80
Item 10	.55
Supportive climate	
Item 1	.77
Item 2	.83
Item 3	.66
Item 4	.83
Item 5	.71
Item 6	.82
Item 7	.83
Item 8	.84
Item 9	.76
Item 10	.81