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The effects of principal instructional leadership on teacher commitment in private primary green schools in Indonesia

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Abstract- This research aimed to explore the direct and indirect effects of principal instructional leadership on teacher commitmentthrough teacher self-efficacy and collective teacher efficacy as perceived by teachers in private primary green schools (*Sekolah Alam*) in Indonesia. The research participants involved teachers from 20 private primary green schools from 10 out of 33 provinces in Indonesia.A total of 339 valid questionnaires were used to collect the data. Structural equation model (SEM) was employed to examine the research hypothesis and the proposed model. Statistical analysis of the obtained data confirmedthat principal instructional leadership significantly affected teacher commitment through teacher self-efficacy and collective teacher efficacy though, empirically, it did not determine the teacher commitment directly. Thus, the roles of teacher self-efficacy and collective teacher efficacy were essential to actualize the principal instructional leadership practices in the case to build teacher commitment.

Keywords:principal instructional leadership, teacher self-efficacy, collective teacher efficacy, teacher commitment, green school, Indonesia

I. INTRODUCTION

Indonesia's stride for the realization of its national objectives for competence is seen to be proactive over the years. This is particularly true in improving the quality of learning of students and the systems of management and instruction in schools which brought various challenges in the many sectors of its education ministry. A number of these challenges dealt with conformity and coping mechanisms for paradigm shifts that redefined and influenced leadership styles among educational institution leaders.

When Kurikulum Tingkat SatuanPendidika (KTSP) 2006 was ineffectively implemented in Indonesia, its former Minister of Education proposed for the review and the adoption of Curriculum 2013. In Rapid Review of Curriculum 13 and Textbooks, the caveat for theoretical input of the said syllabus specified "an emphasis on fostering student-centred and enquiry-based learning, and the development of'21st century skills'.

During its full implementation in the education system of the country, a number of issues and criticisms arose that challenged itsfeasibility and practicality. One of the critical challenges faced by most school principals in Indonesia is the conformity to the high expectations of educational system. These were also observed amongst green schools (*Sekolah Alam*) in the country upon affiliation toNetwork of Sekolah Alam Nusantara.Private green schools have their own sets of core values that guideexclusive mechanisms, curriculums, physical environments and communities. These comprise the key identifying features for green schools to deal with the teaching-learning processes and secure student outcomes.

In consonance to higher expectations stipulated in Curriculum 2013 agenda, the integrated curriculums for primary schools in the country set new guidelines and prospectuses.Such prospects challenged conflicting counter-mechanisms among schools. Alam and Ahmad (2007) posited that school principals need to encourage teachers as the vital stakeholders to harmonize these challenges in order to improve student achievement. Ideal as it may seem, such contention attend to different scenarios. One of these include teacher turnover in schools as a response to curriculum integration. Data from nine green schools showed that approximately 10-25% of teachers had resigned from their teaching posts yearly. Ronfeldt, Loeb, & Wyckoff (2013) found that the high teacher turnover rates impacted on the student achievement empirically. Taking this into account, school administrators are expected to improve their leadership practices. It was recommended that school principals must initiate instructional leadership that focuses on teaching and learning in schools. Researches indicated that principal instructional leadership practices had positive influences to student attainment on their learning (Lee, Walker, & Ling Chui, 2012), student learning outcomes(Hallinger, 2011) and achievement (Heck, Larsen, & Marcoulides, 1990).

The notion as to wether the principal instructional leader has direct or indirect effects to teacher self-efficacy or collective teacher efficacy provides educational institutions chances for better assessment to solve problems.

II. LITERATURE REVIEW

Green school in Indonesian context

Green schools or nature schools,also known as *sekolahalam*, are schools affiliated to Network of Sekolah Alam Nusantara and were established in Indonesia in the last two decades. Their founders highlighted the balance in human relationship through an individual's knowledge of god, fellow human beings and nature. Nature or green was integrated as the concept to develop experiences integral in the exploration of student learning. The schools are guided by four core values that include specific teaching-learning method, green curriculum, physical environment and community empowerment. Pedagogy focuses on mother language, learning with nature and experiential or outbound learning. The curriculum emphasizes on morality and leadership, talent and life-skills, creativity in the arts, logic and knowledge, and environment involvement. The physical environment maintains its advocacy on clean, green, and low or zero cost setup. The core values are envisioned to influence students' learning outcomes and guide students' lives (Alam and Ahmad, 2017).Green School is about giving the kids the space to explore themselves through a fine universal curriculum that leads to wonderful colleges and universities. (Blue Karma Magazine, 2021)

Principal instructional leadership

Items from dimensions of instructional leadership from several related references were considered to develop a measure of the constructs. These include leadership model from Alig-Mielcarek and Hoy (2005), Blase and Blase (2000), Grobler (2013), and Robinson, et al. (2008). The resulting scales consisted of three dimensions: (1) defining of school's goals as framed by the principal being communicated to staff for feedback, (2) managing/ organizing the instructional program as educational production function through active supervision, teacher assessment, and monitoring of student learning progress, and (3) promoting learning climate and working development such as establishing student learning outcomes and provision for teacher professional development.

Teacher self-efficacy

In order to develop the measure of this construct, adopted dimensions of teacher self-efficacy from Tschannen-Moran and Hoy (2001) were deliberately developed through the following three dimensions: (1) efficacy for instructional strategies, such as using a variety assessment, alternative explanation, suitable methods adjusting with green values, respond students' questions and providing instructional media adjusting with green values, (2) efficacy for classroom management, such as controlling disruptive behavior of students, influencing students about rules, and having expectations regarding student behavior based on green values, and (3) efficacy for student engagement, such as influencing students about learning activities, helping students to respect their learning, motivating students, and solving student learning problem.

Collective teacher efficacy

In this research, collective teacher efficacy scale from Goddard, et al. (2000) was adapted by considering the following dimensions (1) group competence as reflected by teachers' teaching competence shown through confidence, teaching ability and the skills needed to produce meaningful student learning, and (2) task analysis as reflected on the teachers assumed where materials and supplies would be provided by school to help student leaning and support homelife.

Teacher Commitment

In this study, building the appropriate measure of teacher commitment was adopted from Park (2005), Thien, et al. (2014), and Ware &Kitsantas (2007)and generated three dimensions as the following: (1) commitment to school organization as indicated by teacher's beliefs and practices to achieve school goals and values, and willingness to remain in the job (2) commitment to teaching profession via teacher's beliefs and practices for further professional growth, and (3) commitment to students through teacher's beliefs and practices to foster student-oriented instruction.

III. METHODS

Data Collection

In this study, the data were obtained through the approval from the teachers of 20 primary green schools from 10 provinces in Indonesia. The administration staff of these schools distributed the questionnaires to the teachers. Selection criteria for participants included the following: (1) participant is a teacher who works in green school that has primary or elementary program and affiliate of Network of *Sekolah Alam Nusantara*, (2) participant is a class or subject teacher in primary green schools, and (3) teacher has teaching experience in current school for at least one year.

The random sampling method was employed to get the representative sample. A total of 360 questionnaires were distributed, 339 valid questionnaires were recovered, yielding a valid recovery rate of 94%. In the study, 32.7% of the respondents were men while 67.3% were women. Sixty-one percent(61.%) of the participants has worked in the green school as their first job. Sixy-three percent (62.5%) of the participants had worked for 1-3 years, 20.1% had worked for 4-6 years and 8.8% had worked 7-9 years in the current primary green school. Seventy-nine percent (79.4%) of the participants served as class teacherswhile 20.6 % as subject teachers.

Limitations

This study was limited to green schools(*Sekolahalam*) affiliated to Network of Sekolah Alam Nusantara, one of school networks in Indonesia. There was no definitive description of the green schools as a global representative of nature schools because of various foundations. Another limitation is difficulties of data collection. The inclusive data of population is a major obstacle for researchers even though determining the unit of analysis of thestudy,deliverations were onducted amongst teachers as well as their principals to simplify the survey .

Statistical Analysis

At a preliminary stage, data screening was examined for multivariate normality (Kline, 2015). Then, confirmatory factor analysis (CFA) was performed to assess construct validity of the scale extent to which a set of measured variables actually represents the theoretical latent constructs those variables are designed to measure (Hair, 2006). Assessment of factor loading for each parameter exceeded 0.5 was declared good thumb (Hair, 2006).

Several model-fir indices were used in the study. These included χ^2 (df) ,goodness of fit index (GFI) with cut value ≥ .95, standardized root mean square residual (SRMR) with cut value < 0.08, root mean square error of approximation (RMSEA) with cut value < .06, and normed fit index (NFI) with cut value ≥ .95 (Schreiber, Nora, Stage, Barlow, & King, 2006). Moreover, assessment of reliability and validity of construct was conducted by assessing the alpha coefficients , composite reliability (CR) and average variance extracted (AVE) (Hair, 2006).

Finally, structural equation model (SEM) was employed to assess measurement model and the path model (Iacobucci, 2010).SEM using (LISREL Program 6.60) was completed to assess the significance of path relationship between constructs. Sobel test was used to assess the significance of mediating variable of teacher self-efficacy and collective teacher efficacy (Kline, 2015)

IV. RESULTS

The measurement model to confirm validity of four variables and SEM analysis regarding research objectives were presented.

Measurement model

Construct validity of measurement model was conducted in the beginning of data analysis. The alpha coefficients and composite reliability (CR) for all constructs exceeded 0.70,the minimum standard requirement for internal consistency (Hair, 2006). Next, these analyses confirmed that average variance extracted (AVE) for the all variables met the assigned standard (0.50) and the result showed that factor loadings for each scale exceeded 0.67, thereby met minimum factor loading standard 0f 0.50 and mostly met with αthe ideal factor loading (>0.70) (Hair, 2006).

Table 1.*Reliability, validity, and goodness-of-fit of the measurement model*

Construct	Scale	Factor loading	α	CR	AVE
Principal instructional	Pil 1	0.77	0.85	0.86	0.66

leadership	Pil 2	0.82			
	Pil 3	0.86			
Teacher self-efficacy	Tse 1	0.79	0.84	0.84	0.64
	Tse 2	0.79			
	Tse 3	0.82			
Collective teacher efficacy	Cte 1	0.87	0.72	0.75	0.61
	Cte 2	0.68			
Teacher commitment	Tc 1	0.70	0.80	0.80	0.58
	Tc 2	0.84			
	Tc 3	0.74			
$\chi^2(38)=76.37$, p=0.00022		CFI = 0.99			
GFI = 0.96		RMSEA = 0.055			
NFI = 0.98		SMRS = 0.034			

Assessment of data fit to the proposed conceptual model was conducted. However, the p-value is unexpected, Based on another criteria's of model-fit indices (GFI>[0.95], NFI>[0.95], CFI>[0.95], RMSEA<[0.08], and SRMR<[0.08]) showed a satisfactory fit (Hair, 2006). Moreover, based on this analysis, the measurement model met desire standard of reliability both alpha Cronbach and composite reliability (CR) (0.7) with average variance extracted (AVE) above (0.5) indicated this model is adequate convergence (Hair, 2006).

SEM analysis

SEM analysis was employed to investigate the causal relationships among variables.The conceptual model in this study proposed the possibility that principal instructional leadership could determine both direct and indirect effects on teacher commitment.

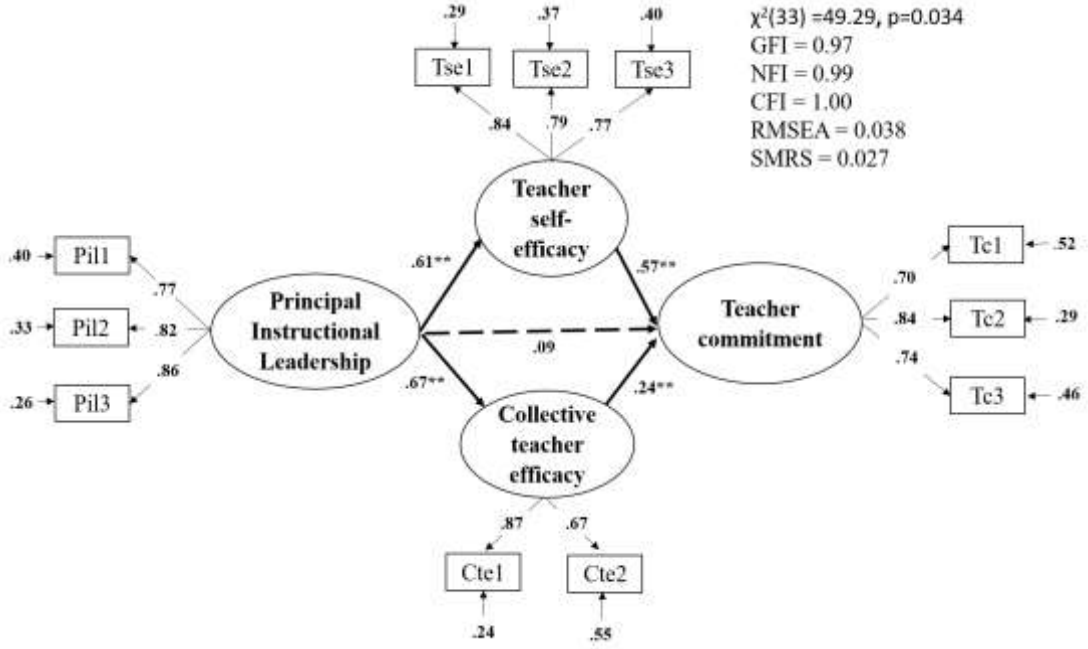

FIGURE 1. *The effects of principal instructional leadership on teacher commitment via teachers' self-efficacy and collective teacher efficacy. Note **p <.01, *p <.05.*

SEM results showed that this model was definitely acceptable because it was fit on all ofmodel-fit indexes that consisted of GFI= 0.97 [>.95], NFI=0.99[>0.95], CFI=1.00[>0.95], RMSEA =0.038 [<0.08], and SMRS =0.027 [<0.08], even thoughp value was less than 0. 05. Next, the path model described in figure 1 indicated that principal instructional leadership statistically did not affect teacher commitment (β=0.09, p>0.05). Instead, its effects on teacher commitment were mediated by teacher self-efficacy and collective teacher efficacy. Moreover, the pattern of mediated effects also proved illuminating because principal instructional leadership evidence has a significant direct effected on teacher self-efficacy (β=0.61, p>0.01)

and collective teacher efficacy (β=0.67, p>0.01). In turn, teacher self-efficacy significantly affected teacher commitment (β=0.57, p>0.01) while collective teacher efficacyaffected teacher commitment (β=0.24, p>0.01). Additionally, the positive effect among paths indicated that principal instructional leadership could influence the level of all teacher variables.

The research results in summary showed that principal instructional leadership statistically did not affect teacher commitment (β=0.09, p>0.05) directly. Instead, its indirect effects on teacher commitment were mediated by teacher self-efficacy and collective teacher efficacy.

V. DISCUSSION AND CONCLUSIONS

From the summary of research results, it wasfound that principal instructional leadership statistically did not affect teacher commitment directly, but indirectly affectedteacher commitment as mediated by teacher self-efficacy and collective teacher efficacy.

As asserted earlier, providing rich school values and expectations might exhibit the distinctiveness of schools.Relatively, these were claimed to have exerted potential pressures on principal and teachers in green schools. In this case, principal leadership practices were considered more tangible by teachers in order to ensure their work efficacy both in teaching and in other school work towardsthe realization of student achievement. Previous research noted that principal could change the student achievement to improve school environment and instructional organization especially in the exploration of instructional advancement and collaboration with teachers (Alam and Ahmad, 2017).

Moreover, Sofo, Fitzgerald, & Jawas (2012) described the benefits of instructional leadership regarding recognized problems toward student achievements in Indonesia especially those concerning poor school management, conformity to changes, irrelevant policies and teacher quality problems. Additionally, Raihani (2008) suggested that for the principals in Indonesia to ensure the school success that reflected school objectives, it is necessary to uphold the school's values and beliefs, analyze internal and external situations, ensure the school visions and strategies and improve school's capacity. Thus, principal leadership practices that focused on involving school goals with the extra green values were relevant to apply in Indonesian green schools as well as managing the instructional program and keeping the teaching-learning climate in order to gain the optimum student learning toward student achievement.

Previous studies claimed that instructional leadership could influence teacher to foster commitment (Alam and Ahmad, 2017; Sarikaya and Erdogan, 2016). The findings indicated that involving other significant factors was definitely crucial in Indonesian green school context in order to activate functions of instructional leadership practices aimed at improving teacher commitment. The complexity of teachers to commit in three domains including the commitment to school, teaching profession and students was surely strenuous to be changed promptly by the principal leadership practices,though in reality, it would be used to support their work. Literatures from other studies pointed out that principal leadership practices that include leader-follower relationship determined only partial part of teacher commitment especially inhelping the teachers' adjustments for students (Ibrahim, et al., 2014), and also the availability of support enhanced implementation of green school, emphasizely, the importance of school leadership for successful educational change (Yangdon, 2019). However, the leadership practices in this study were definitely aimed to show the different findings in determining teacher commitment in overall aspects. In reality, the contextualization of these findings is complex in Indonesian green schools context.

This study also empirically showed that teachersidentifiedto have manifested or practiced collective teacher efficacy had been influenced by principal instructional leadership practices in order to determine teacher commitment. AlthoughFancera and Bliss (2011) noted that principal leadership practices especially protecting the instructional time significantly determined the student achievement,Calik, et al. (2012) on the other hand viewed that the principal instructional leadership practices strongly enhanced their own efficacy,which then impacted number of teachers with high efficacy collectively. In the light of teacher's commitments to uphold the vision and mission of private primary green schools in Indonesia, it is established that both teacher self-efficacy and collective teacher efficacy are influencedby the principal instructional leadership.

Implications

This study established the fact that teacher self-efficacy and collective teacher efficacy mediates the relationship between principal instructional leadership and teacher commitment, indicating that in Indonesian green schools, the context of principal leadership practices concerned in teaching-learning are essential to achieve not only inthe realization of green schools' values but also the national achievement for standards on student learning. Principals in Indonesiangreen schools have to be involved in the development of practices based on three main domains including (1)the creation of clear green school vision, mission and strategies with the teachers' active collaboration, (2) the provision for effective communication in supervision as part of managing instructional programs, (3) encouragement for the teachers' professional development and other support for the improvement of teacher collaboration.Moreover, teacher self-efficacy and collective teacher efficacy are essential features of the professional and cultural world of teachers andschools. Hence, the principals in Indonesian green schoolsare recommended to take active participation through collaborative actions in the observation of the teachers' beliefs regarding their commitments into teaching and also the efficacy of the group that must be taken into consideration in decision-making.

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