

A Study of the Relationship between Different Evaluators and Principals' Leadership Effectiveness Evaluation in Feedback System

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Abstract

This study aimed to discuss the difference of different evaluators in principals' leadership effectiveness evaluation, analyze the difference between self-evaluators and the other evaluators in principals' leadership effectiveness evaluation; investigate principals' perception of the difference between different evaluators' leadership effectiveness evaluation capacity; and explore the relationship between principals' perception of evaluators' capacity, principals' attitudes toward evaluation feedback system, and principals' attitudes toward evaluation feedback results. The conclusions of this study were as follows: The score given by educational administrators in elementary school principals' leadership effectiveness evaluation was the lowest; the score given by principals themselves in leadership effectiveness evaluation was higher than the scores given by the others; principals thought that educational administrators' evaluation capacity was the lowest; principals' acceptability of 360 degree evaluation was higher than the equity of the system and the equity of results; and evaluators' capacity and principals' attitudes toward evaluation feedback were highly correlated.

Keywords

Competing values framework, leadership effectiveness, 360 degree feedback system

1. Introduction

1.1 Principals are the leaders of schools' development, so the enhancement of principals' leadership effectiveness is vital to improve schools' effectiveness.

Due to the effect of globalization, knowledge-based economy and low birth rate, there is a tremendous change in educational environment. Sergiovanni (1995) indicated that principal's leadership played a vitally important role in school's development.

Some researchers (Wan, Ghulam, & Muhammad, 2011) pointed out that when the organizational environment becomes complex, it is quite difficult to define appropriate leadership behaviors in all situations. But it is certain that the leadership performance and effectiveness of principals are closely related to school effectiveness (Alammar, 2015; Orr & Orphanos, 2011). Sergiovanni (1995) pointed out that the leadership of the principal plays a crucial role in the development of school affairs. The principal is the navigator of the school's development, and the improvement of the

principal's leadership effectiveness is the core element to promote the school's effectiveness.

If the principal is a versatile leader, his or her leading methods, leading performances and leading styles would affect school's development and school members', students' and school' effectiveness deeply (Leithwood & Jantzi, 2008; Orr & Orphanos, 2011; Robinson, Lloyd, & Rowe, 2008). The enhancement of school's effectiveness is an important task in principal's leadership. Principals who have leadership effectiveness are essential to encourage schools' improvement (National Association of State Boards of Education, 1999). To effectively promote educational reform, the roles elementary school principals play and the leadership effectiveness elementary school principals equip catch a lot of attention.

1.2 360 degree feedback can offer diverse understanding of principals' leadership effectiveness.

Problems concerning self-ratings and rating by one individual stimulated many organizations to use 360 degree feedback (Hensel et al., 2010). 360 degree feedback has been comprehensively adopted by many enterprises (Fleenor, Taylor, & Chappelow, 2008). Its evaluators include evaluatees themselves, superiors, subordinates, peers and even customers. This kind of multi-source appraisal method can appropriately reflect the variety and complexity of the leading work today (London & Smither, 1995). The researches related to 360 degree feedback even have been involved into the exploration of big data (Brown, Lin, & Inceoglu, 2017; Markham, Markham, & Smith, 2015). The advantage of 360 degree feedback is to offer more convincing viewpoints to evaluate members' effectiveness. Besides, it can also increase the reliability of evaluation results (Milliman, Zawacki, Norman, Powell, & Kirksey, 1994). Through 360 degree feedback, evaluatee can not only gain multi-facet evaluation feedback from themselves and the others, but also understand different evaluators' expectation, what kinds of abilities should they improve, and the things they should pay extra attention to when working from these feedback (Edwards & Ewen, 1996). Consequently, the most important part of 360 degree feedback is to compare our own viewpoints with the others' to improve working performance and leadership effectiveness through the process of feedback (Amundsen & Martinsen, 2014; Kopperud, Martinsen, & Humborstad, 2015; Lepsinger & Lucia, 2009).

1.3 Principals' knowledge and acceptability of 360 degree feedback system is the key of implementation.

The focus of past effectiveness evaluation researches was usually on the efficiency and accuracy of evaluation, but the responses of participants in evaluation system and the reasons behind these responses were rarely explored. However, the influence of participants' responses, especially the evaluatees', on the success evaluation system is not less than efficiency and accuracy. Bernardin and Beatty (1984) indicated that when deciding the feasibility of effectiveness evaluation system, subordinates' responses were more important than some psychometrics, such as leniency errors and halo effect. Cardy and Dobbins (1994) also showed that if leaders didn't support and accept it, even a technical, complex and accurate effectiveness evaluation system was designed, its effectiveness was also very limited. In addition to the reliability and validity of effectiveness evaluation, leaders' attitudes toward effectiveness evaluation is also worth being discussed, and is a major issue for many researches (Lepsinger & Lucia, 2009). When organization conducts 360 degree feedback system, the ultimate purpose is to encourage leaders to set goals and improve their effectiveness performance. Hence, how principals view 360 degree leadership effectiveness evaluation feedback should be explored more deeply.

According to the motives above, the purposes of this study were to discuss the difference of different evaluators in principals' leadership effectiveness evaluation; analyze the difference between self-evaluators and the other evaluators in principals' leadership effectiveness evaluation; investigate principals' perception of the difference between different evaluators' leadership effectiveness evaluation capacity; and explore the relationship between principals' perception of evaluators' capacity, principals' attitudes toward evaluation feedback system and principals' attitudes toward evaluation feedback results.

2. Literature Review

2.1 Competitive architecture and leadership effectiveness

What is leadership? The answer of this question may vary from person to person. And there are wide diverse opinions about leadership effectiveness. Every claim of leadership seems to make sense, but it has its own advantages and limits. Conflicts and mutual exclusion may happen in every leading method because the concept of leadership has paradoxicality. Especially in this ambiguous and ambivalent postmodern society, it seems that the best way or a way that can apply universally for school leadership doesn't exist. Competing values framework (CVF) is a meta theory. It originated from competing values model, and was integrated from a bunch of empirical studies related to organizational

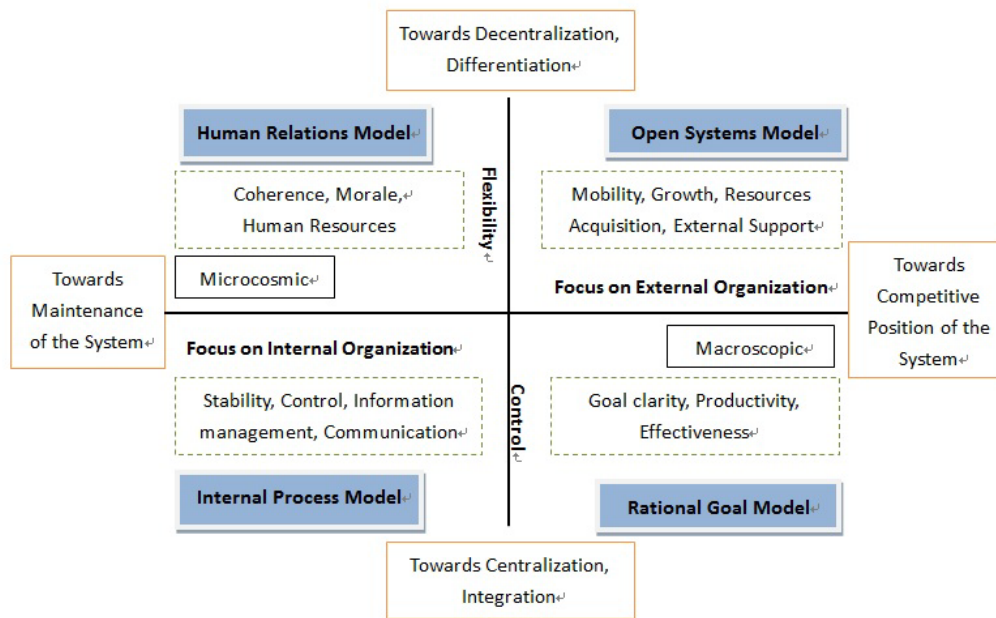
effectiveness. Its thinking pattern is based on mentally existing opposite and contradiction in human (Cheng & Wu, 2009; Quinn & Rohrbaugh, 1983). At first, the framework was used to integrate the main indicators in organizational effectiveness and was applied to test effectiveness and values of organizations (Cameron & Quinn, 1999). The key point of it is to use the four quadrants, “rational goal model”, “open systems model”, “human relations model”, and “internal process model”, formed by horizontal axis “internal-external” and vertical axis “flexibility-control” to integrate four important theories in organizations with Janusian thinking. The theoretical pattern is shown in Figure 1 (Quinn & McGrath, 1985).

Rational goal model: Situated on lower-right quadrant, it emphasizes task-based leadership effectiveness. The organizational values of this model are competitiveness and productivity.

Open systems model: Situated on upper-right quadrant, it emphasizes adaption-based leadership effectiveness. Its main goals are adaption, growth, external supports and resources acquisition, and it puts emphasis on flexibility and external focus, such as innovation and creativity.

Human relations model: Situated on upper-left quadrant, it emphasizes trust and belonging-based leadership effectiveness. Its main goals are cohesion, participation, morale and communication, and it puts emphasis on flexibility and internal focus.

Internal process model: Situated on lower-left quadrant, it emphasizes stability and control-based leadership effectiveness. The individual is given a certain role and is expected to follow the rules.



Source: The transformation of organizational cultures: A competing values perspective by R. E. Quinn, & M. R. McGrath, 1985, In P. J. Frost, L. F. Moore, M. L. Louis, C. C. Lundberg, & J. Martin (Eds.). Organizational culture, p.324, Sage.

Figure 1. The organization theory model of competing values framework.

The improvement of school effectiveness is an important topic for the principal's leadership. Facing different interaction objects, the principal needs to act as an all-round leader. His leadership style, leadership behavior and leadership style have a profound impact on the development of the school and also on the school staff, student and school effectiveness (Leithwood & Jantzi, 2008; Robinson, Lloyd, & Rowe, 2008).

Researchers (Denison, Hooijberg, & Quinn, 1995; Wan, Ghulam, & Muhammad, 2011) mentioned that when organizations became complicated, it was quite difficult to define a certain leadership behavior that was appropriate for every the situation. But what can be sure is that the principals' leadership roles and performances have close relationship with schools' effectiveness (Alammar, 2015).

On the basis of competing values framework, the definition of leadership effectiveness in this study was that leadership was a process and a result that leaders considered the internal and external organizations and applied leadership strategies to improve organizations' achievements and competitive advantages (rational goal), emphasized on organizations' reform and dealt with external needs (open system), improved satisfaction of organizations' members and hu-

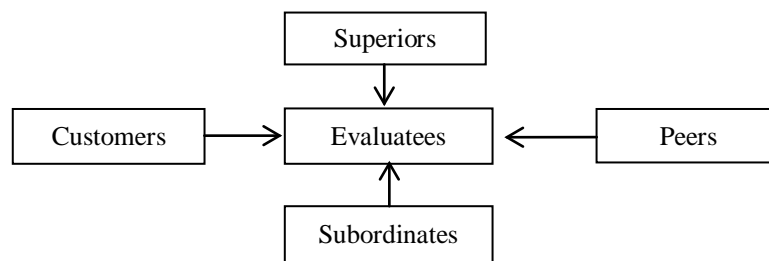
man resource development (human relations), and maintained the stable operation in organizations and good internal integration (internal process). The tool developed by Cheng (2012) was used in this study. Leadership effectiveness was divided into 4 domains, 12 dimensions and 45 indicators based on the theory of competing value framework to investigate principals' leadership effectiveness.

Hypothesis 1: There are significant differences in the current situation between the various levels of principal leadership effectiveness.

2.2 Different sources of feedback and principal leadership effectiveness

360 degree feedback is a multi-source feedback technique. It focuses on specific individuals and makes several evaluators, including evaluatees, conduct evaluation (Tornow, 1993). The main idea is to conduct all-round evaluation by evaluatees, superiors, subordinates, peers and even external customers in accordance with evaluatees' leadership performances, and to provide feedback after the evaluation.

The 360 degree feedback results of self-evaluation and other-evaluation have a crucial influence on members' organizational behaviors (Karkoulian, Assaker, & Hallak, 2016; Markham, Markham, & Smith, 2017; Nowack & Mashihi, 2012). The basic concept of 360 degree feedback results is shown in Figure 2.



Source: Made by the researcher

Figure 2. 360 degree feedback diagram.

360 degree feedback was considered to offer more advantages when compared with single source evaluation (Bracken & Rose, 2011; Fleenor & Prince, 1997) and was comprehensively paid attention to and explored (Bracken & Church, 2013; Frauman, 2013; Markham, Markham, & Smith, 2015; Mishra, 2014). The results of this kind of self-assessment 360-degree feedback come from reviewers with different viewpoints, and evaluate the effectiveness of leaders in different aspects. This mechanism has an important impact on the organizational behavior of members (Karkoulian, Assaker, & Hallak, 2016; Markham, Markham, & Smith, 2017; Nowack & Mashihi, 2012). Because leaders can use these feedbacks to clarify the expectations of different evaluators, and then more accurately understand which areas of effectiveness they need to strengthen and what to pay special attention to when working (Edwards & Ewen, 1996). This kind of system has several advantages as follows: offering new angles of judgment on personal skills, behaviors, abilities or performances, compensating the inadequacy of top-down single source evaluation (Cipolla, 2009), increasing the aspects of observable performances or behaviors, strengthening organizations' values and prospects and offering unique opportunities of self-evaluation for individuals. Self-evaluation is the essential purpose in 360 degree feedback (Fleenor, Taylor, & Chappelow, 2008), though self-evaluation can be affected by some bias, such as "leniency" and "social desirability", its advantages are still more than disadvantages.

Effectiveness observers from different sources have different interactive experiences with the evaluators, and have different views on ability observation, so inconsistent evaluation results often appear (Cipolla, 2009). However, scholars do not think that "inconsistency" is a problem, but an indicator of diversity; on the contrary, if all feedback information is consistent, there is no need to collect diverse information (Murphy & Cleveland, 1995). In general, leadership effectiveness is influenced by personal characteristics (Bergner, Davda, Culpin, & Rybnicek, 2016; de Vries, 2012; McKee, Yih-teen & Antonakis, 2015), and is therefore more established the basis for information enrichment in leadership effectiveness assessments.

Atwater and Yammarino (1992) believed that self-assessment would be affected by biases such as "leniency" and "social desirability". Self-serving bias refers to the phenomenon that individuals hold relatively positive and high evaluations of themselves, resulting in relatively high self-ratings; the second is exaggeration, which refers to the fact that individuals have blind spots or blind spots in their own observations. When there is a lack of insight and relevant knowledge, there is a tendency to make positive and exaggerated measures; Bass (1990) also pointed out that compared

with the results of self-evaluation and other evaluations or with other objective criteria, the results obtained by self-evaluation appear to be exaggerated and inaccurate. Stable and incorrect. Some studies on self-assessment also found that self-assessment and self-deprecation coexist (Atwater & Yammarino, 1997; Van Velsor et al., 1993; Church, 1997). But anyway? Self-assessment is an important method and process in 360-degree feedback (Fleenor, Taylor, & Chappelow, 2008).

Brett and Atwater's (2001) study also pointed out that when subjects rated their own evaluation scores higher than those of their superiors and subordinates, they would be less likely to evaluate the evaluations given by their superiors and subordinates accurate perception. The research of Lin Wenzhan (2009) pointed out that the self-evaluation of principals in 360-degree evaluation is the highest, and the self-evaluation of subordinates is the lowest.

Table 2-1. The comparison with 360 degree feedback and traditional Edwards and Ewen (1996) integrated all the information and compared 360 degree feedback with traditional evaluation. The results are shown in table 1, and it was found that 360 degree evaluation had more advantages than traditional evaluation

Topics to be compared	Traditional Evaluation	360 Degree Feedback
Sources of Information	Top-down: Direct supervisors	All-round: Supervisors, subordinates, peers, customers and evaluatees
Accuracy of Information	The differentiation between evaluation results of different members is small.	There is a clear differentiation between members' working performances.
Validity of Information	The differentiation of each criterion of validity is small, and the validity is low.	The differentiation of each criterion of validity is big, and the validity is high.
Completion of Information	Only depending on direct supervisor's judgment	Giving consideration of all-round observation angles and observation opportunities.
Focuses of Evaluation	Past orientation; emphasizing on working results.	Future orientation; emphasizing on working process.
Equity of Evaluation	It is easily affected by personal preference and friendship	It is difficult for members to perform because of being neglected for some reasons or misunderstandings.
Purposes of Evaluation Results	Only for administration purposes	For both administration and development purposes
Relationship with Members	Easily falling into the relationship between supervisors and supervisees	Relationship of support, encouragement and cooperation

Source: "Feedback: The powerful new model for employee assessment & performance improvement" by Edwards, R.M., & Ewen, J.A. 1996. 360°. AMACOM.

When feedback is offered by reliable sources, members have more positive responses; while an individual believes the feedback from the others is not accurate, the value of that feedback drops dramatically (Brett & Atwater, 2001). Thus, the consistency of self-evaluation and other-evaluation in leadership effectiveness are influenced by personality (Bergner, Davda, Culpin, & Rybnicek, 2016; de Vries, 2012; McKee, Yih-teen & Antonakis, 2015). The research of Lin Wenzhan (2009) pointed out that the self-evaluation score of the principal's 360-degree evaluation is the highest in "principal self-evaluation" and the lowest in "subordinate and other evaluation". In view of the above, this study proposes the following assumptions:

Hypothesis 2-1: Different evaluators differ significantly in their assessments of the effectiveness of the principal's leadership

Hypothesis 2-2: There are significant differences in the assessment of principal leadership effectiveness by self-evaluators.

2.3 Differences of principals' perception of different evaluators' ability to evaluate leadership effectiveness

The research of Brett & Atwater (2001) found that when the respondents rated themselves higher than their bosses, they would have less accurate perceptions of the evaluations given by their superiors and questioned their evaluation ability. Liu Lihua's (2000) study also pointed out that the evaluation method of 360-degree feedback is not considered to be fair, and one of the important factors is the distrust of the evaluation ability of the evaluator. Therefore, this study

proposes:

Hypothesis 3: Principals' perceptions of different evaluators' ability to evaluate leadership effectiveness are significantly different.

2.4 360-degree leadership effectiveness feedback attitude

The so-called performance feedback refers to "transmitting credible information to the evaluated performance person, letting him know the difference between himself and others in his performance evaluation results, and providing members with guidance on performance as the basis for future learning and improvement (Zheng Caifeng, 2012; Zheng Caifeng & Wu Huijun, 2008). Chen Yiru's (2008) study found that the individual's cognitive response process to 360-degree evaluation feedback information is influenced by the credibility of the perceived feedback source and affects self-improvement intention. A receptive attitude towards the results can be achieved.

Generally, how feedback is perceived and responded by receivers is the key for evaluation feedback researches (Kinicki, Prussia, Wu, & McKee-Ryan, 2004) because the results of evaluation should be offered to members as feedback after members' effectiveness was evaluated. However, the major factor for members to produce positive behavior change encouraged by the feedback of results is whether evaluatees can perceive "accuracy of evaluation".

Because when the feedback is provided by a credible source, members will have a more positive response; but when the individual believes that the feedback information obtained from others is inaccurate, the value of the feedback will be seriously reduced (Brett & Atwater, 2001). Even in some studies, it was found that "performance feedback" did not have a positive effect on all members, and some members' performance did not improve but decreased after receiving feedback (Atwater & Waldman, 1998; Johnson & Ferstl, 1999).

According to cognitive psychology, in the period of the individual accepting the results of evaluation to behavior change being produced, the individual will experience some kind of thinking process. In this process, it is individual's subjective perception of accuracy of evaluation that leads the individual to produce behavior change, that is to say, after the individual accepts the result of feedback, different responses of accuracy perception are made according to the feedback of evaluation results given by evaluatees and the others, and then, the responses of behavior are produced (Gumustekin, Ozler, & Yilmaz, 2010; Lepsinger & Lucia, 2009; Tosti & Addison, 2009). Therefore, this study presents:

Hypothesis 4: There is a significant difference between the principal's acceptance of 360-degree leadership effectiveness and the perception of fairness

Researchers show that more extraverted leaders overrated their effectiveness in relation to their supervisors but had more accurate perceptions when self-peer and self-subordinate ratings were compared. Leaders with an intuition preference had more accurate perceptions when comparing self and supervisor or subordinate ratings while leaders with judging preferences received lower subordinate than self-ratings. (Bergner, Davda, Culpin, & Rybnicek, 2016). Rachael Lewis of Trilogy Coaching and Patty Vogan of Victory Coaching, told attendees at the California/Nevada Leagues' annual meeting and convention that employees view the feedback assessments as empowering. "The reason we call it 360 Degree is because we want to go the whole way around," said Vogan of the questionnaire that elicits information not only from the primary participant, but from that person's peers and boss as well. "You're getting feedback from everybody that you work with." (Tina, C., 2001).

An important determinant of whether the evaluation method of the 360-degree feedback is fair or not is the trust in the evaluation ability of the evaluator (Liu Lihua, 2000). If the evaluator can affirm the evaluation ability of the immediate supervisor, colleagues and subordinates, the evaluator will think that the entire evaluation system has a high degree of correctness (Wang Xinwan, 2008). Some studies (Lu Zongxian, 2007; Chen Yixuan, 2007) have found that the "ability to evaluate sources" has a significant relationship with the respondents' perception of the fairness and receptivity of the evaluation mechanism and evaluation results. Therefore, this study proposes:

Hypothesis 5: The principal's perception of the 360-degree evaluator's ability is significantly related to the evaluation feedback attitude.

3. Research Method

3.1 Object

The range of this study was elementary schools in Kaohsiung city, but (and) to show principals' leadership effectiveness, principals who served in their schools less than 2 years were removed, so there were 87 public elementary school principals in the end. Research objects subjects were public elementary school principals (87 principals), and their supervisors (2 educational administrators), subordinates (2 chiefs, directors or teachers), peers (2 other principals) and customers (2 parents). Therefore, every principal accepted leadership effectiveness evaluation from 9 people, principals

themselves were included, and there were 783 samples in total. After eliminating invalid questionnaires (including the principal), a total of 760 valid questionnaires were recovered, with an effective rate of 97%.

3.2 Tool

3.2.1 The questionnaire of 360 degree feedback investigation in elementary school principals' leadership effectiveness

This tool was developed by Cheng (2007) based on competing value framework. There were 4 domains, 12 dimensions and 45 indicators.

The questions at each level are as follows: setting clear school goals; guiding necessary changes in the school; high morale among school colleagues; and implementing performance responsibilities for work. The factor loadings of all the individual items were between 0.56 and 0.82, and their reliability coefficients were between 0.74 and 0.92 which were above the standard, 0.6. This shows the internal consistency of the model in this study is good.

3.2.2 The questionnaire of evaluator's perception of evaluation capacity

This questionnaire was developed in accordance with the research of Atwater and Waldman (1998).

The questions at each level are as follows: The superintendent of education has the ability to accurately measure my leadership effectiveness; I believe the superintendent of education is an appropriate person to provide feedback on my leadership effectiveness; Can remove personal biases and mistakes.

The tool's eigenvalue was 6.675, and explained variance was 55.626. The factor loadings of all the individual topics in this tool were between 0.67 and 0.81, and its α coefficient was 0.926.

3.2.3 The questionnaire of the attitudes toward evaluation feedback

This questionnaire was divided into "attitudes toward evaluation feedback system" and "attitudes toward evaluation feedback results". It was developed based on the researches of Bernardin et al. (1993) and Furnham and Stringfield (1998).

The questions at each level are as follows: I can accept the 360-degree principal leadership effectiveness assessment system; I think the implementation process of the 360-degree principal leadership effectiveness assessment system is fair; I can accept the principal in the 360-degree principal leadership effectiveness assessment Feedback from my peers; 360-degree results of the Principal's Leadership Effectiveness Assessment make me feel fair.

This tool's eigenvalues were 6.445 and 7.863, explained variances were 80.565 and 78.626, α coefficients were 0.963 and 0.969, and its overall α coefficient was 0.982. This shows the internal consistency of the questionnaire is good.

3.2.4 Procedure of Conduction

The questionnaire of 360 degree feedback investigation in principals' leadership effectiveness in the first phase was conducted first. The objects were 87 elementary school principals and the other evaluators who were mentioned above. After questionnaires were collected, statistical analysis was applied to complete the feedback of evaluation results and the integrated information of feedback. Then, the feedback of evaluation results, the integrated information of feedback and the questionnaire of 360 degree feedback in leadership effectiveness were mailed to 87 elementary school principals to conduct the questionnaire of 360 degree feedback investigation of principals' leadership effectiveness in the second phase.

4. Results and Discussion

4.1 An analysis of the differences in the four aspects of competitive leadership effectiveness of primary school principals

The results of statistical analysis found that the average of the overall leadership effectiveness was 4.87, which was a medium to high level of leadership effectiveness on the 6-level scale. From the difference analysis of the four levels, it was found that it reached a significant level, F value = 2065.29, $p < .001$. From the post-event comparison of dependent samples, it is found that the performance of the principal's leadership effectiveness in internal processes and rational goals is significantly higher than that of interpersonal relationships and open systems. In the face of today's open, diverse and treacherous social environment, it is necessary for the principal to strengthen the leadership of the open system. Hypothesis 1 of this study, "There are significant differences in performance across all dimensions of principals' leadership effectiveness." is supported.

The detail is listed in Table 1 below.

Table 1. Summary table of differences in the four aspects of competitive leadership effectiveness of primary school principals

Four levels	Number of questions	Average	Standard deviation	Single item average	F value	Post-hoc comparison
(1) Rational Goal	12	58.79	8.72	4.90	2065.29***	(4)、(1)>(3)>(2)
(2) Open System	10	47.99	7.35	4.80		
(3) Human Relation	11	53.52	8.62	4.87		
(4) Internal Process	12	58.88	8.54	4.91		
Overall leadership effectiveness	45	219.19	31.47	4.87		

4.2 The analysis of the difference between different evaluators toward elementary school principals' leadership effectiveness evaluation

It was found in statistical results that there was a significant difference between principals, parents, peers and educational administrators in "rational goal", "open systems", "human relations", "internal process" and "overall effectiveness". In addition, after post hoc comparisons were conducted, it was found that parents' peers' and evaluatees' scores of elementary school principals' leadership effectiveness were higher than educational administrators') The reason is that the Education Bureau is the principal's superior supervisory unit, and the Bureau of Education's requirements and evaluation standards for principals are naturally more stringent, so the score is low. Therefore, the hypothesis 2-1 of this study "There are significant differences in the evaluation of the principal's leadership effectiveness by different evaluators" is supported.

The detail is listed in Table 2 below.

Table 2. The brief list of the analysis of the difference between different evaluators in elementary school principals' leadership effectiveness evaluation

Domain	Evaluator	Number of People	Mean	Standard Deviation	F _(4,755)	Post Hoc Comparisons
Rational Goal	(1)Educational Administrators	174	54.08	5.25	26.63**	(2),(4),(5)>(3)>(1)
	(2)Parents	174	61.68	10.04		
	(3)Teachers	174	57.29	10.03		
	(4)Peers	159	61.40	6.65		
	(5)Principals	79	60.86	7.12		
Open Systems	(1)Educational Administrators	174	44.22	5.19	27.12**	(2),(4),(5)>(3)>(1)
	(2)Parents	174	50.83	8.26		
	(3)Teachers	174	47.68	8.20		
	(4)Peers	159	49.16	6.04		
	(5)Principals	79	48.41	6.27		
Human Relations	(1)Educational Administrators	174	48.19	4.76	37.60**	(2),(4),(5)>(3)>(1)
	(2)Parents	174	56.30	9.70		

	(3)Teachers	174	56.30	9.70		
	(4)Peers	159	56.60	5.81		
	(5)Principals	79	57.03	5.84		
Internal Process	(1)Educational Administrators	174	55.28	4.08		
	(2)Parents	174	61.35	10.11		
	(3)Teachers	174	56.43	10.73	23.23**	(2),(4),(5)>(3)>(1)
	(4)Peers	159	61.84	5.93		
	(5)Principals	79	60.84	6.43		
Overall Effectiveness	(1)Educational Administrators	174	201.77	16.51		
	(2)Parents	174	230.17	36.97		
	(3)Teachers	174	213.05	37.51	29.16**	(2),(4),(5)>(3)>(1)
	(4)Peers	159	229.00	22.45		
	(5)Principals	79	227.13	23.88		

** $p < .01$

4.3 The analysis of the difference between self-evaluators and the other evaluators in elementary school principals' leadership effectiveness evaluation

From Table 3 below, it was found that there was no significant difference between self-evaluators and other-evaluators in elementary school principals' leadership effectiveness evaluation except for "open systems". Principals gave themselves higher scores in leadership effectiveness than other-evaluators, namely educational administrators, parents, teachers and peers.

This result is consistent with the research of Lin Wenzhan (2009). It is inferred that the reason may be that the subject sample of this study (the principal of the primary school) has deep confidence in his own leadership, coupled with the bias of self-interest, that he can successfully and successfully practice various leadership actions; another reason Because the principal is worried that his score may be too low, which may lead to negative results of low leadership effectiveness, in order to avoid this result, the self-scoring score is increased.

Ostroff, Atwater, and Feinberg's (2004) used multivariate regression analyses and found that differences between self and other ratings were related to age (because older managers rated themselves higher), experience (because more experienced managers rated themselves more favorably than less experienced managers), and education (managers with less education were rated lower by others). Recipients may interpret feedback as negative when ratings from other sources are lower than self-ratings (Smither, London, & Reilly, 2005). Henselet al. (2010) also showed it seems to be difficult to rate one's own abilities or effectiveness of work behaviour in a reliable and valid way. Therefore, 360 degree feedback is considered to be important for the enhancement of self-knowledge.

Therefore, the hypothesis 2-2 of this study, "There are significant differences in the evaluation of the principal's leadership effectiveness by self-evaluators" is supported.

Table 3. The brief list of the analysis of the difference between self-evaluators and other-evaluators in elementary school principals' leadership effectiveness evaluation

Domain	Evaluators	Number of People	Mean	Standard Deviation	t Value
Rational Goal	(1) Principals	79	60.86	7.12	6.60**

	(2)	The Others	681	58.55	8.86	
Open Systems	(1)	Principals	79	48.41	6.27	2.47
	(2)	The Others	681	47.95	7.47	
Human Relations	(1)	Principals	79	57.03	5.84	15.17***
	(2)	The Others	681	53.11	8.80	
Internal Process	(1)	Principals	79	60.84	6.43	6.65**
	(2)	The Others	681	58.66	8.72	
Overall Effectiveness	(1)	Principals	79	227.13	23.88	10.85**
	(3)	The Others	681	218.26	32.12	

** $p < .01$ *** $p < .001$

4.4 The analysis of elementary school principals’ perception of the difference between different evaluators’ evaluation capacity

It was found in table 4 that there was a difference in principals’ perception between different evaluators’ evaluation capacity. Principals perceived that peers’ teachers’ and parents’ evaluation capacity were all higher than educational administrators’. It showed from Table 2 that educational administrators’ scores in principals’ leadership effectiveness evaluation were the lowest, and also in Table 4, it indicated that educational administrators’ evaluation capacity was the weakest.

However, it is curious that in most current evaluation methods, it is educational administrators that evaluate principals’ leadership effectiveness. Kenny et al. (1994) also showed that advantages related to political power struggles in the social network of employees and managers seem to cause low agreement levels within organizations using ratings, especially when personal qualities have to be assessed.

The findings of this study are similar to those of some studies (Brett & Atwater, 2001; Taylor, 1981), that is, when the respondents have higher self-rated scores than their bosses, they will perceive less accurate assessments from their bosses. In addition, Facticeau, McGonigle, & Fredholm (1999) also believed that when reviewers received positive feedback, they would be more satisfied and believe that the feedback was credible, and the more they could accept and believe that the evaluation was correct, and they would be more satisfied with the evaluation. The ability of the examiner will have a more positive cognition, and vice versa, it will have a negative reaction. When a reviewer with a high self-esteem receives negative feedback, they tend to think that the feedback message of the subject is wrong, and even question the reviewer’s ability to evaluate.

Therefore, Hypothesis 3 of this study, "Principals' perception of different evaluators' ability to evaluate leadership effectiveness, is significantly different." is supported.

Table 4. The brief list of the analysis of elementary school principals’ perception of the difference between different evaluators’ evaluation capacity

Evaluatee of Perception	Number of People	Mean	Standard Deviation	F _(4,755)	Post Hoc Comparisons
(1) Educational Administrators	174	13.24	2.90	25.91***	(2),(3),(4)>(1)
(2) Peers	79 159	13.89	2.48		
(3) Teachers	174	14.41	2.58		
(4) Parents	174	14.03	2.66		

*** $p < .001$

4.5 The analysis of the current situation of elementary school principals' attitudes toward evaluation feedback

Elementary school principals' attitudes toward evaluation feedback included the attitudes toward 360 degree feedback system and feedback results, acceptability and equity of the system under attitudes toward feedback system, and acceptability and equity of results under attitudes toward feedback results. From Table 5, it was found that the average score of every topic in elementary school principals' overall attitudes toward 360 degree evaluation feedback was 4.80, and its approval level was slightly high. In one of its dimensions, "attitudes toward feedback system", the average score of every topic was 4.82, and the approval level was also slightly high. Accessibility of the system had higher approval tendency, while equity of the system, which represented that the implementation process of the system was equal and using 360 degree feedback system to evaluate principals' leadership effectiveness was equal, showed normal approval level. In the other dimension, "attitudes toward feedback results", the average score was 4.79, and the approval level was slightly high. Accessibility of results had higher approval tendency, while equity of results only showed normal approval level.

That is to say, whether it is the 360-degree feedback system itself or the feedback results, the principal's acceptance of the system is significantly higher than the fairness. This result is in line with Kinicki, Prussia, Wu, & McKee-Ryan, (2004). How feedback is received and perceived as correct and fair is a key theme when evaluating research on feedback. It can be seen that the implementation of the 360-degree evaluation feedback requires the principal to fully understand and formulate a fairer approach to ensure the effective implementation of the system. Hypothesis 4 of this study is supported by "Principals' perceptions of acceptance and fairness of 360-degree leadership effectiveness feedback are significantly different."

Table 5. The brief list of means and standard deviations of elementary school principals' attitudes toward evaluation feedback

Attitudes toward Evaluation Feedback	Mean	Standard Deviation	Number of Topic	Average Score of Each Topic
Attitudes toward Feedback System	38.53	7.21	8	4.82
Accessibility of the System	29.27	5.41	6	4.88
Equity of the System	9.27	1.96	2	4.64
Attitudes toward Feedback Results	47.89	8.88	10	4.79
Accessibility of Results	19.87	3.67	4	4.97
Equity of Results	28.01	5.49	6	4.67
Overall Attitudes toward Evaluation Feedback	86.42	15.88	18	4.80

4.6 The analysis of relationship between principals' perception of evaluators' capability, attitudes toward feedback system and attitudes toward feedback results

It was found from table 6 that there was a positive correlation between principals' approval level on perception of educational administrators', peers', teachers' and parents' evaluation capacity and principals' attitudes toward feedback system. And it also had a positive correlation with attitudes toward feedback results. When exploring the relationship between perception of evaluators' capacity and attitudes toward evaluation feedback, which included attitude toward feedback system and attitudes toward feedback results, except for parents who were only moderately correlated with attitudes toward feedback system and attitudes toward feedback results, the other evaluators were all highly correlated with attitudes toward feedback system and attitudes toward feedback results.

This phenomenon is consistent with the results of some studies (Gumustekin, Ozler, & Yilmaz, 2010; LvZongxian, 2007; Chen Yixuan, 2007). The system utilizes a mix of self-, peer and teacher assessments and places primary focus on a dialogic communication to engage all stakeholders proactively in the process (Tee & Ahmed, 2014). London and Smither (1995) argued that discrepancies between self-ratings and feedback from others can lead feedback recipients to perceive a need to change their behavior. Maurer and Palmer (1999) found that managers' intentions to participate in development following feedback from peers and subordinates were positively related to their perceptions of social

pressures for improvement and rewards or benefits from improvement. These studies provide evidence that taking action is positively related to performance improvement after receiving multisource feedback

Hypothesis 5 of this study is supported by "Principals' perception of 360-degree evaluators' ability to be significantly correlated with their attitudes toward evaluation feedback."

Table 6. The brief list of the analysis of relationship between principals' perception of evaluators' capability, attitudes toward feedback system and attitudes toward feedback results

Attitudes toward Evaluation Feedback	Educational Administrator	Peer	Teacher	Parent	Overall Situation
Attitudes toward Feedback System	.664**	.624**	.655**	.545**	.740**
Attitudes toward Feedback Results	.647**	.608**	.669**	.579**	.719**

** $p < .01$

5. Conclusions

5.1 The leadership effectiveness of primary school principals is slightly higher, and the internal process and rational goals have a higher performance.

In this study, the overall and various leadership effectiveness levels of primary school principals showed a slightly higher level of leadership effectiveness. Among them, the performance of internal process and rational goal leadership is better than that of crowd relations and open system; and before the highest score, the two also emphasize the leadership effectiveness of stable control orientation. However, leadership effectiveness in the open systems orientation was relatively low.

5.2 The score of elementary school principals' performance on leadership effectiveness given by educational administrators was the lowest.

Generally speaking, educational administrators may have high expectations on principals' performance on effectiveness because they are their supervisors. This may lead to the situation that the score of principals' performance on leadership effectiveness given by educational administrators was the lowest among all the other evaluators.

5.3 The score of principals' leadership effectiveness given by principals themselves was higher than the scores given by the others.

The score of leadership effectiveness given by elementary school principals themselves was higher than the scores given by other-evaluators, such as educational administrators, peers, teachers and parents. It was possibly because principals were confident of their performances on effectiveness, or they used a more lenient and optimistic standard to evaluate themselves. This is the so-called motive of self-reinforcement which led them to emphasize their strength and caused their self-evaluation score higher than the scores given by the others.

5.4 Principals believed that educational administrators' evaluation capacity was lower than peers', teachers' and parents'.

Principals' approval level on perception of educational administrators' evaluation capacity was lower than the others' evaluation capacity. It was probably because educational administrators gave much lower scores comparing to the other evaluators. This may cause principals' negative perception and make them have lower approval level on educational administrators' evaluation capacity than on the other evaluators'.

5.5 There was a higher approval tendency on principals' acceptability of the system and results, but there was only normal approval level on the equity of feedback system and results.

Elementary school principals showed a slightly higher degree of approval towards the 360-degree evaluation feedback attitude. No matter in the feedback system or the feedback results, there was a high tendency to accept the acceptance; but in terms of fairness, there was only a general degree of approval, and the acceptance rate was relatively high. Sex is significantly higher than fairness.

5.6 There was a highly correlation between evaluators' capacity and principals' attitudes toward evaluation feedback.

Principals' approval level on perception of different evaluators' evaluation capacity was positive correlated with attitudes toward feedback system and attitudes toward feedback results. This showed that the higher principals' approval level on perception of different evaluators' evaluation capacity, the more positive principals' attitude toward 360 degree feedback system. That is, principals could accept evaluation feedback system better and approve the equity in feedback system more.

6. Suggestions

6.1 Strengthen the leadership performance of the "open system" and the "flexible" operation of primary school principals

It was found in this study that when accepting the feedback of evaluation results, elementary school principals didn't easily approve the evaluation capacity of those evaluators who gave them lower scores, and despised 360 degree feedback evaluation model. Thus, if the implementation of 360 degree feedback evaluation system is going to be promoted to let people in education field know and understand this evaluation method, educational training is vitally important. So, when educational administration or schools hold training courses, the introduction of 360 degree feedback could be arranged to make education-related people understand the idea and purpose of 360 degree feedback and try to use this evaluation model to conduct educational leaders' evaluation.

6.2 An effective system of effectiveness system attitudes should be constructed to encourage principals' leadership behavior change.

Properly strengthening principals' attitudes toward accessibility of 360 degree feedback evaluation system and the perception of its equity certainly can encourage principals' behavior change intention and improve leadership effectiveness.

The results of this study found that when primary school principals received feedback on the evaluation results, they were generally less likely to agree with the evaluation ability of those with lower scores, and thus rejected the 360-degree feedback evaluation model. For this reason, if teachers and other personnel can take the opportunity of study and further education to understand and understand the connotation and method of this evaluation, it will be helpful for the promotion of this evaluation model.

6.3 Constructing an effective feedback mechanism for principal leadership effectiveness evaluation and strengthening its fairness

Through appropriate understanding and learning, the acceptance of the 360-degree evaluation and feedback system will be promoted by principals, especially the improvement measures for the fairness of this system, so as to intensify the change of the leadership behavior of primary school principals, thereby enhancing the leadership effectiveness.

6.4 360 degree feedback evaluation should be promoted to apply to educational evaluation of leadership effectiveness.

360 degree feedback evaluation features that evaluators don't limit to supervisors. Peers, subordinates or external members are also included. The most important point is evaluatees can evaluate themselves. If evaluation results could be offered to principals as feedback afterwards, and make principals understand their own evaluation, then their leading styles could be improved or enhanced to make schools' effectiveness better. Hence, it is necessary to promote 360 degree feedback evaluation system to apply to educational evaluation of leadership effectiveness.

6.5 Studies related to 360 degree feedback evaluation should be reinforced.

There are some advantages to apply 360 degree feedback evaluation to the performance evaluation of people in educational field. The application of 360 degree feedback and its relationship with effectiveness and the comparison with 360 degree feedback and other related effectiveness evaluation are what 360 degree researchers need to dedicate into in the future.

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