A STUDY ON THE DEVELOPMENT AND APPLICATION OF POSITIVE INSTRUCTIONAL SUPERVISION INSTRUMENT FOR MENTOR TEACHERS

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Abstract - The purposes of this study are to review the related knowledge body of positive instructional supervision, to develop the instrument of positive instructional supervision for mentor teachers, and to use the instrument to assess the current situation of positive instructional supervision about mentor teachers. Survey method was employed in this study. The study was conducted to develop the instrument of positive instructional supervision for mentor teachers by administering questionnaires to 120 school mentees. On the other hand, the situation of positive instructional supervision for mentor teachers were further scrutinized. The data collected were analyzed through the methods of means, item analysis, reliability analysis, and validity analysis. The main findings of this study are as follows: (1) The questionnaire of positive instructional supervision for mentor teachers about the discrimination, reliability and validity is well-developed. (2) The current situation of positive instructional supervision for mentor teachers is in high level. In conclusion, this author, based on the findings in this study, proposes several suggestions for the implementation of positive instructional supervision for mentor teachers and for the further studies respectively.

Keywords - Mentor Teacher, Mentee, Positive Instructional Supervision

I. INTRODUCTION

School is the important field where education quality is elevated, whereas teaching and teacher's quality are the main factors affecting education quality (Wu. & Lai., 2007). Although elevating teaching quality can be done through multiple types of assessments and supervisions, instructional supervision is still the key point t to elevate school quality (Sergiovanni, 2002). As instructional supervision is highly concerned in research and implementation in the educational field over the past years, the importance of instructional supervision is self-evident (Kuo,1996, Glanz & Zepeda, 2016).

The function of instructional supervision, in the early stage, was to supervise and to evaluate teachers. It was performance-oriented rather than profession developing; thus, teachers felt reactance psychologically (Gall & Acheson, 2011). Mentally, it is sensible that teachers produce a negative attitude which disagree with the supervisors, but it is easy for them to feel under stress and won't sense any accomplishment (Wu, 2007). When the relationship between supervisees and supervisors in instructional supervision is tense, it devastates professional learning and growth (White & Locke, 2000).

In the era of the 21st century, instructional supervision emphasizes the supervisees' professional learning and growth, as well as motivating them to perform at a higher level of profession. Klar, Huggins, and Rossler (2016) believe that focusing on developing teacher's individual and collective ability to improve instructional supervision on elevating class teaching is the key to improve students' learning. The correlative studies (Asai, 2017, Barrera, 2003, Koob, 2003) found that the implementation of positive instructional supervision effectively improve supervisee's self-efficiency and promote professional learning growth. Thus, the purpose of this study is to discuss on the development of positive instructional supervision instrument for mentor teachers and to understand the situation of positive instructional supervision for mentor teachers.

II. THE IMPORTANT IMPLICATION OF POSITIVE INSTRUCTIONAL SUPERVISION

Jones and Wades (2015) introduced the model of "Positive Supervision" which focused on "strength" and coordinated positive psychology, cognitive psychology with flexible adjustment strategies of instructional supervision to achieve effective instructional supervision.

The positive instructional supervision is the process of instructional supervision. During the process, the supervisors and supervisees establish a positive relationship and employ listening and positive questioning techniques to explore the supervisees' strengths and guide the supervisees to proceed goal analysis and promote their development in achieving goal solution strategies and provide the supervisees with positive feedback to increase the supervisees' abilities (Ting,& Wang, 2018).

The structure of positive instructional supervision contains goal formulation, finding competency, working on progress, and feedbacks and reflections (Bannink, 2015). This structure is compatible with the trilogy of teaching observations in Taiwan: the pre-conference, observation, and post-observation conversation. In all three parts of the trilogy, goal formulation is comparable to pre-conference and finding competencies and working on progress is

corresponding with the concept of observation while reflections and feedbacks is in accordance with post-observation conversation. Therefore, after coordinating the four pillars of positive instructional supervision and the trilogy of teaching observation, it is concluded in this study that the implementation of positive instructional supervision should contains three steps of pre-conference, observation, and reflection conversations.

III. RESEARCH DESIGN AND IMPLEMENTATION

A. Research Object

After the pilot test was written, we administrated 120 questionnaires on mentees from elementary and secondary schools in Taipei City. Among the 120 questionnaires distributed, 120 copies were retrieved meaning 120 questionnaires were valid with 100% availability ratio.

B. Research Tool

The design of the "Questionnaire of Positive Instructional Supervision for Mentor Teachers" is mainly referred to the correlative bibliography of positive instructional supervision from Bannink (2015), Costa and Garmston (2002). The questionnaire contains following three scales: 1. Planning conference, 2. Observation, and 3. Reflection conversation.

The measurement of the " Questionnaire of Positive Instructional Supervision for Mentor Teachers" invited mentees to fill out all questions with a prudent and objective manner. Each teacher responded every item from "fully compliant" to "completely non-compliant" in terms of 7, 6, 5, 4, 3, 2, 1, respectively. The higher points represent better performance of mentor teachers' positive instructional supervision.

C. Research Procedures

This study was first begun in the end of January 2019 aiming at probing into relevant bibliography of positive instructional supervision for mentor teachers. It then started to compile the questionnaire of positive instructional supervision for mentor teachers in February 2019. In March 2019, five professional scholars were invited to analyze the validity of the questionnaire. After editing the contents of the questionnaire, a pilot test was administered in the end of March 2019. At the time the questionnaires were retrieved in the beginning of April 2019, analysis of research items, factors, reliability, and current situation of positive instructional supervision for mentor teachers were conducted.

D. Data Analysis Method

After retrieving the "Questionnaire of Positive Instructional Supervision for Mentor Teaches", the statistical methods: t test, construct validity, Cronbach alpha reliability analysis, means, and repeated measures were applied to understand the questionnaire's discrimination, factor analysis, reliability, in addition to the current situation of positive instructional supervision for mentor teachers.

IV. RESEARCH OUTCOME AND ANALYSIS

A.Discrimination Analysis

In order to understand each item question's discrimination, the scale of this study applies t test to explain each question's Critical Ratio (CR). The analysis outcome is shown in Table 1. As shown in Table 1, there are 20 questions in the "Questionnaire of Positive Instructional Supervision for Mentor Teachers". After each question is tested with t test, it is found that CR ranges from 5.89 to 13.79, and each CR all exceed the customary standard 3.3 (Wang, 2006) reaching the significant difference standard. It indicates that all 20 questions in the "Questionnaire of Positive Instructive Supervision for Mentor Teachers" have excellent discrimination.

B. Factor Analysis

The Exploratory Factory Analysis (EFA) of this study applied Principal Factor Analysis to extract factors. It also used Varimax to rotate and took eigenvalue greater than 1 as screening standard. After the first factor analysis, 3 factors were extracted. One factor is "reflection conversation" which has factor loading ranging from .71 to .86, eigenvalue resting at 5.94 and explained variation at 29.71%.

The second factor is "planning conference" with its factor loading ranging from .46 to .86, eigenvalue at 5.52, and explained variation at 27.60%. The third one is "observation" which has factor loading ranging from .55 to .88, eigenvalue at 4.81, and explained variation at 24.03%. The total construct validity explained variation is 81.34%. The data in Table 2 conforms to the perspectives of Wang (2006) which states that, in social science, it is appropriate if the explained variations reach at 60% or above from the retention factor that the factor analysis determines.

C. Reliability Analysis

From Table 3, we learned that the total Cronbach α coefficient of the "Questionnaire of Positive Instructional Supervision for Mentor Teachers" is 0.97, and the Cronbach α coefficients of each dimensionality in planning Conference, observation, and reflection conversation is 0.94, 0.94, and 0.96 respectively.

Either the total or individual dimensionality has met above "0.7 standard" indicated by Wu (2005). In other words, the "Questionnaire of Positive Instructional Supervision for Mentor Teachers" has high reliability and its internal consistency is excellent.

D. Current Situation Analysis of Positive Instructional Supervision for Mentor Teachers

The total and individual dimensionality of positive instructional supervision for mentor teachers are shown in Table 4. From Table 4, we know that the score of positive instructional supervision for total mentor teachers is 6.34. As 4.00-5.00 is in "moderate performance", 5.01-6.00 points is comparable with "moderately high performance" and 6.01-7.00 is in accordance with "high performance" in terms of the 7-point sale, we infer that the positive instructional supervision for mentor teachers in Taipei City has high performance. The score, from high to low of each dimensionality is as follow: planning Conference (M=6.46), reflection conversation (M=6.32), and observation (M=6.24). Nevertheless, the score of each dimensionality reaches above high level of performance. After analyzing with repeated measures F test, it is found that the score of each dimensionality reached at a significant level ($F=8.51$, $p<.001$). After comparing, the "planning conference" has highest score, followed by "reflection conversation" and "observation".

CONCLUSIONS AND IMPLEMENTATION

Conclusion

1. The "Questionnaire of Positive Instructional Supervision for Mentor Teachers" has excellent discrimination.

The pilot test of "Questionnaire of Positive Instructional Supervision for Mentor Teachers" has 20 questions. 120 mentees of Taipei City were invited as research object to further analyze the questionnaire's discrimination. The result showed that all questions were retained, and the CR of each question was significant different, and the CR value was above 3.5 standard. This finding shows that each question has excellent discrimination.

2. The "Questionnaire of Positive Instructional Supervision for Mentor Teachers" has excellent exploratory construct validity.

After analyzing the discrimination and exploratory construct validity, and principal component analysis, we found that questions were converged into 3 factors: "reflection conversation" which has its factor loading ranging from .71 to .86, eigenvalue at 5.94 and explained variation rest at 29.71%, "planning conference" which has the factor loading from .46 to .86, eigenvalue equals to 5.52 and explained variation at 27.60%, and finally the "observation" which has factor loading from .55 to .88, eigenvalue at 4.81, and explained variation at 24.03%. The total construct validity explained variation is 81.34%.

3. The "Questionnaire of Positive Instructional Supervision for Mentor Teachers" has high reliability.

The overall Cronbach α coefficient of the "Questionnaire of Positive Instructional Supervision for Mentor Teachers" in this study is 0.97, whereas the individual Cronbach α coefficient of planning conference, observation, and reflection conversation is 0.94, 0.94, and 0.96 respectively. It means that the questionnaire of this study has high reliability.

4. Mentor Teachers in Taipei City have good performance in positive instructional supervision.

Our study finds that the performance of positive instructional supervision for mentor teachers in Taipei City is in high level. After analyzing with repeated measured ANOVA analysis, we found "planning conference" has highest performance followed by "reflection conversation" and "observation".

Suggestions

1. Make good use of the instruments for elf-evaluation on positive instructional supervision behavior.

This study compiled the "Questionnaire of Positive Instructional Supervision for Mentor Teachers" basing on the relevant bibliography. After further research, it is found that the questionnaire of this study has pretty good discrimination, reliability and validity. Thus, we suggest that in the future, the mentor teachers can use this instrument at any time as a skeleton to evaluate their own performance in positive instructional supervision to implement an effective positive instructional supervision.

2. Enforce instructional supervision implementation of conversation on observation and feedback.

The study finds that the positive instructional supervision for mentor teachers in Taipei City has high performance. Among all, observation and reflection conversation have relatively low performance. Therefore, this study suggests that in the future, the elementary and secondary schools should actively encourage mentor teachers make great use of various types of opportunities of instructional supervision to strengthen the implementation of mentees' observation and reflection to effectively increase mentees teaching profession.

3. Employ Confirmatory Factor Analysis (CFA) exploratory theoretical model.

This study finishes compiling the "Questionnaire of Positive Instructional Supervision for Mentor Teachers". The study also finds the questionnaire has good discrimination, reliability and validity. In order to further understand factor structure of positive instructional supervision, this study suggests, in the future, construct a theoretical model with higher goodness of fit and stability by implementing goodness of fit, absolute fit, increase fit, and parsimony fit.

4. Continue correlative empirical research on positive instructional supervision.

This study finishes compiling the "Questionnaire of Positive Instructional Supervision for Mentor

Teachers". The study finds that the questionnaire has good discrimination, reliability and validity. Therefore, when implementing correlative research on positive instructional supervision such as the relationship between positive instructional supervision for mentor teachers and mentees' teaching effectiveness, and the relationship between positive instructional supervision for mentor teachers and professional commitment of mentees, we suggest use this questionnaire as fundamental scheme to understand and construct a localized theory and practice.

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Table 1 Scale of Analysis of Positive Instructional Supervision for Mentor Teachers

Dimensionality	*Item Number*	*CR*	*Dimensionality*	*Item Number*	*CR*	*Dimensionality*	*Item Number*	*CR*
Planning Conference	1	7.50***	Observation	1	10.00***	Reflection Conversation	1	12.02***
	2	7.17***		2	10.60***		2	10.03***
	3	8.24***		3	9.53***		3	9.99***
	4	8.62***		4	13.79***		4	9.17***
	5	8.72***		5	10.57***		5	9.75***
	6	5.89***		6	11.74***		6	10.57***
	7	9.48***					7	9.32***

*** $p < .001$

Table 2 Scale of EFA of Positive Instructional Supervision for Mentor Teachers

Dimensionality	*Item Number*	*Factor Loading*	*Eigenvalue*	*Explained Variation*	*Total Variation*
Planning Conference	1	.80	5.52	27.60	81.34
	2	.77			
	3	.85			
	4	.86			
	5	.83			
	6	.73			
	7	.46			
Dimensionality	Item Number	Factor Loading	Eigenvalue	Explained Variation	
Observation	1	.88	4.81	24.03	
	2	.86			
	3	.55			
	4	.66			
	5	.64			
	6	.82			
Dimensionality	Item Number	Factor Loading	Eigenvalue	Explained Variation	
Reflection Conversation	1	.76	5.94	29.71	
	2	.72			
	3	.72			
	4	.75			
	5	.86			
	6	.81			
	7	.71			

Table 3 Scale of Reliability Analysis of Positive Instructional Supervision for Mentor Teachers

	Planning Conference	Observation	Reflection Conversation	Total Scale
α coefficient	0.94	0.94	0.96	0.97

Table 4 Analysis Abstract Table of Mean, Repeated Measures, and F Test of Individual Dimensionality on Positive Instructional Supervision for Mentor Teachers

Dimensionality	Number of People	Mean	Standard Deviation	F Test	Posteriori Comparisons
(1)planning Conference	120	6.46	0.71	8.51***	(1)>(2),(3)
(2) Observation	120	6.24	0.87		
(3) Reflection Conversation	120	6.32	0.88		
Total Positive Instructional Supervision	120	6.34	0.75		

Instructional Supervision整

* * * p < .001

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