

A STUDY ON THE CONSTRUCTION OF PRESCHOOL PRINCIPAL CURRICULUM LEADERSHIP INDICATORS

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ABSTRACT

This research aims to construct local curriculum leadership indicators, and understand how would current administrative operations take preschool principals as their main research object. In the beginning, through literature discussion on the important aspects such as implication and practice of preschool-based curriculum development, the content and theoretical foundation as well as the important aspects, dimensions, and indicators of the preschool principal curriculum leadership's role playing, we have generalized the content as well as the respects, dimensions and indicators of the principal curriculum leadership's role. Secondly, seven scholars and eight preschool principals were invited to work as members for Delphi Technique assigned with major missions to judge based on curriculum leadership indicators. Then, with three-round questionnaires of Delphi Technique, it pointed the appropriate standards for curriculum leadership indicators. Finally, main conclusions were elicited. Preschool curriculum leadership theories include curriculum theories and leadership management theories, and it has its unique academic value; Preschool principals are the main school curriculum leaders, and they play many roles of curriculum leadership and they have to shoulder the responsibilities of curriculum leadership ; Foreign scholars pay more attention to curriculum leadership and Taiwan's response to the current trend is to develop curriculum leadership indicators and supply them to be consulted by preschool principals ; Preschool principal curriculum leadership consists of six aspects, sixteen dimensions, and forty-seven indicator items , and develop continuous , improving strategy patterns. And the study provides some advices for preschool principals and next researchers.

Keywords: Preschool Principal, Curriculum Leadership, Indicators.

INTRODUCTION

In recent years, "curriculum leadership" with the goal of "raising students' learning quality" has apparently become a newly emerging territory in the educational research practice (Translated by Sheng Wen-Jing et al, 2001). Besides, Huang Cheng-jieh (1999) took into considerations on whether the school-based curriculum development can focus on implementation more than curriculum leadership. As we know, the preschool principal is the head of the preschool, the spiritual figure, and the core of leadership who operates and manages, and promotes and develops the preschool affairs. Following this thinking line, the principal's leadership behaviors turn out to be the key to development of the preschool's successful operation and affair treatment. As a result, the principal's leadership form and philosophy not only influence on the whole preschool's decision making and practical operation, but also relates to its existence and developing direction (Culkin,2000). As empirical studies indicates, the principal is the key figure in respect with the school-based curriculum development (Kao Shin-chien, 1999; Brady,1985; and Dimmok &Lee,1999). On

the other hand, foreign literature have pointed out that curriculum leadership should certainly become the core task among school's administration affairs, only most administrative personnel are not enthusiastic at leadership of curriculum and teaching as at affair management of the organizational management (Ervay & Roach, 1996). In the national level, there are still some people who hold stereotype of the principal at the administrative leadership without the need of curriculum or teaching leadership (Chang, 2004). Nevertheless, administration supports teaching, while teaching is closely connected to curriculum in the way that teaching cannot run separately in the state of isolation. Therefore, in addition to administrative leadership, the principal has to operate the curriculum in school-based development (Hsu Chao-sheng, 1999; Chen Tzu-chuan, 2004). As mentioned previously, like each level of schools, the preschool is an organization, and the head of the preschool equals the principal of the elementary school whose role in promoting development of school curriculum is equally important as the head of preschool. However, a lot of preschool principals concentrate the leadership on administration leadership, leading to ignorance of curriculum leadership. Actually, in the process of developing preschool-based curriculum, the principal should take responsibility of administration and curriculum leadership.

Thus, the preschool principal as the curriculum leader, in the process of pursuing a preschool close to a refined realm, must think how to develop the curriculum and teaching based on the teacher's advantages and abilities in order to allow the children to be bathed in the optimal learning activities, so that they can receive the best development as well as growth in three dimensions—knowledge, skills, and attitudes. Further, education quality with transcendence and innovation can also be enhanced. All can be put into practice under the principal's successful curriculum leadership and operation. On the other hand, curriculum leadership is also the critical element in curriculum reform, since without it, the goal and value of education cannot be clarified, the plans cannot be developed nor implemented, which not only affect the process of curriculum reform, but also influence the reform's effect (Wiles & Bondi, 1993; Chang Chia-yu, 2002; Chen Mei-ling, 2002). To conclude, in the present study, we will aim at the preschool principal's constructing the indicators, expecting to set up a set of definite curriculum leadership indicators for the educational authority organs, the preschools, or the preschool principals to consult with when they deal with practical affairs.

Research Purposes

According to the research motivations mentioned above, the purposes of this research are listed below:

- (I). Explore theoretical content and argument foundation of the preschool principal's curriculum leadership.
- (II). Explore the important aspects, dimensions, and items of curriculum leadership implemented by the preschool principal
- (III). Construct the indicator's system of the preschool principal's curriculum leadership
- (IV). Propose relative suggestions according to the research findings and results to function as reference for practical work and subsequent research of the preschool principal's curriculum leadership

Questions to be answered

According to the above mentioned research purposes, in addition to systematic analysis of the relative literature, this research has collected and analyzed data by means of questionnaire survey targeting at the following questions:

- (I). What are theoretical content and argument foundation of the preschool principal's curriculum leadership?
- (II). What are the important aspects of the preschool principal's curriculum leadership?
- (III). What are the proper indicator system of the preschool principal's curriculum leadership
 1. What aspects does the system include?
 2. What dimensions does the system include?
 3. What items does the system include?
 4. How does the indicator fit?

LITERATURE DISCUSSION

The role of the preschool principal is to take responsibility of promoting the preschool's overall operation, which covers the work involving curriculum development. Therefore, whether the preschool can run successfully relates closely to whether the preschool principal has brought the functions of a professional leader to a full play. Presently, the research subject relative to curriculum leadership behaviors still inclines to the principals or dean of academic affairs. Although the principal, dean of academic affairs, and head of the preschool generate different curriculum leadership behaviors, functions and goal of their roles are often consistent. As a result, the curriculum leadership behaviors of the principal as well as dean of academic affairs can serve as reference for the head of the preschool to consult with when they proceed curriculum leadership.

(I) The role and tasks of the preschool principal's curriculum leadership

In the preschool, the principal who plays the role of curriculum and administration leadership is the dominant figure of the preschool's school affairs operation, management, and development. Lin You-tien (2002) held that the leader in a new century should have an idea of the importance of "partnership", and play the benchmarking role of the "communicator, integrator, and walker". Sabar and Silberstein (1993) regarded that the most primary factor that influence on the success of the curriculum leader lies in the style and strategies of curriculum leadership. As we know, a successful curriculum leader adopts assistive rather than training strategies.

In the whole preschool curriculum leadership, the principal plays the role to promote and catalyze things, while the teacher also occupies the core position. Consequently, the benign interactive relationship between the principal and the teacher should be critical to the effectiveness of curriculum leadership. Bloom (2000) conducted a research with 257 U.S. preschool principals as the research subject. With pictures and words, the researcher conducted further analysis of the principals' image of the role they are playing, and synthesized 6 categories considered as the role required to be taken by the principal, including: the balancer between two extreme conditions, the role player with multiple duties, the leader & the director, the sociable master, and the mobile expert who are ready to tackle the risks anytime. Also, Chien Chu-ying (2001) classified the job responsibilities and the role of the preschool principal into 6 types, including administration, teaching, general affairs, preservation, parent-teacher interaction, and other. Hsu Yu-ling (2001) generalized that the

preschool principal should play the multiple roles of the following items: planner, conductor, inspector, participant, learner, coordinator, supporter, consultant, and so on. As for Chang Wei-Chu (2002), his research indicated that the principal's professional role involves with the administration leader, teaching leader, communicator & coordinator, and life-time learner. Due to the diversified dimensions of the role, it must be taken by the professional early childhood personnel. Otherwise, Kuo Fang-Chen (2005) categorized the role tasks of the preschool principal's curriculum leadership into six types as follows: 1. The planner, decision maker, supervisor, and participant for the preschool affairs; 2. The curriculum and teaching leader; 3. The communicator and coordinator; 4. The teacher's motivator and supporter; 5. The problem solver; 6. Mentor, consultant, and lifetime learner.

(II) The content and action strategies of preschool principal's curriculum leadership

Regardless of the principal, administrative personnel, teachers, or parents, it is possible for them to play the role of curriculum leader, and a variety of different roles all influence on each decision making regarding curriculum leadership. As far as the preschool principal is concerned, he/she endures heavy workload as well as responsibilities in the process of carrying out curriculum leadership. At this point, in accordance with research findings, in the process of developing school-based curriculum, the preschool principal should play the role of a worker full of zest, a model demonstrating what is right and good, a positive and active learner, a critic who discovers problems, a thinker who considers things from multiple dimensions, a communicator good at coordinate, a sympathetic care giver as well as a cooperator negotiating with one another, a task assigner who consigns work based on his/her good understanding of the competent subordinator, and a trustable administrative officer (Wang Chien-shin, 2012; Tsai Ching-tien and Wang Chien-shin, 2012; Saaty, 1980). Particularly, whether the curriculum qualify, whether the national education policy is put into practice thoroughly, and if the educational goal achieved all depend on whether the preschool principal can implement the curriculum leadership behaviors, whether his/her action strategies are appropriate, and so on, which shows the importance of his/her position.

Since scholars in a diversity of fields hold divergent opinions of the content and action strategies of curriculum leadership, the researcher has tried to incorporate various viewpoints into six principal's curriculum leadership, as listed below:

i. Shape the visions of the preschool, and construct the preschool's curriculum goals

The curriculum leader should analyze the ecology of campus and the culture of the organization, and depict the picture of the curriculum developing work. Then, through the mechanism of democratization, the principal should cohere the common consensus of all staff in the preschool, and set up the common vision of the whole preschool. Further, by means of school affair meetings as well as teaching research conferences, the principal can discuss with the school staff on the school's curriculum developing directions, set up the goals of the preschool's curriculum according to the school's visions, and draw up and carry out each project and pan of achieving the school's visions and curriculum goals, so that those projects as well as plans can guide the school members and parents in the communities to check and modify the school's visions and curriculum goals.

Both national-wide and international-wide, a lot of scholars' studies indicate that the first priority to proceed curriculum leadership is to establish the goals. As Wu Ching-shan and Lin

Tien-you (2001) mentioned Krug's point-of-view on curriculum leadership. In Krug's assertion, the first element of curriculum leadership is to ascertain the tasks. As Glatthorn (1987, 2000) suggested, the principal curriculum leadership should be done through cooperation with the teachers and coworkers, so that the school's visions of the curriculum can be set up. Such visions can provide a clear sense of direction to curriculum work, and it provides foundation of curriculum assessment as well. Ou Yung-sheng (2000) has proposed that curriculum leadership in transformation must shape the vision and goals of curriculum, which is consistent with Wu Ching-shan and Lin Tien-you's (2001) perspective that the first focus of the main content of curriculum is to draw up the curriculum goal and plan. In addition, Fang Te-long (2001) has generalized that in the school-based curriculum leadership's strategies, the principal must depict the school vision and the curriculum purposes. Other scholars like Kao Po-Chien (2001), Huang Hsu-Chun (2001) and the like also illustrate in their academic works that when the principal is proceeding curriculum leadership, the school vision and curriculum goals must be set.

ii. Make the preschool's curriculum development organization sound and complete, and develop the preschool's curriculum plans

Make the preschool's curriculum development organization sound and complete. According to the teacher's ability, strengths and the preschool's current condition to set up each field's curriculum panel for curriculum planning. Then, ascertain the preschool's curriculum framework, and coordinate with the field teacher to plan the curriculum framework and edit the curriculum plan. Instruct and assist the office of academic affairs together with other school units to scheme the curriculum according to the curriculum guidelines to develop measurable goals and common goals for students and teachers, and select, analyze, utilize, and propagate the education projects.

Glatthorn (2000) held that the school's curriculum plans are very effective, since plans needs to cooperate with the teachers to draw up, so interaction with the teachers will be enhanced, and they can make the teaching design even more complete and more solid. Ultimately, plans can serve as the most ideal tool for reviewing the curriculum. Since some teachers consider plans as routine, and thus ignore them, the principal should take responsibility of groundwork by continuous communication in order to clear the teachers' doubt and consideration. Besides, in addition to making decisions, the curriculum committee in each school is responsible for regulating the school's overall improvement plan that must be revised every year.

iii. Check that the curriculum's normal practice, and implement the curriculum's assessment and feedback

The curriculum leader has to explore the condition and effect of curriculum practice continuously, process field teachers' teaching observation and teaching seminars, and confirm whether curriculum practice is consistent with the original curriculum plan. He/she proceeds feedback, correction and connection of the curriculum and teaching continuously. Moreover, the curriculum leader encourages the teachers to propose questions encountered in process of implementing the curriculum by the teacher on one hand. On the other hand, the curriculum leader timely adjusts the content of the curriculum, teaching materials, teaching strategies, and assessment tools. Otherwise, the curriculum leader should understand the teaching behaviors of every teacher in the preschool and help them improve, encourage the teachers to retrospect the curriculum related issues encountered by the preschool. He/she may

organize a teaching team for team teaching, while guiding the preschool members to select and review the teaching materials and projects. By means of students' learning assessment results, he/she also guides the teachers to analyze whether the content of the assessment complies with the curriculum goal, and assist the teachers to implement rescue teaching.

Glatthorn (2000) considered that curriculum leadership should supervise the process of curriculum implementation. The reasons to do so involve with making practice of curriculum efficient. Besides, supervision can ensure the consistency of the curriculum development with the foundation of the old experiences to upwards connect with the higher level of curriculum. On one side, the teachers are allowed to select appropriate materials according to the instructions; on the other side, the principal can personally take part in curriculum development, leading to more open relationship between the principal and the curriculum. For Glatthorn (2000), he also regarded that curriculum assessment should be practiced in each link of the curriculum implementation process, and the comprehensive assessment results should be adopted. As Wu Ching-shan and Lin Tien-you (2000) asserted, curriculum leadership should cover curriculum visitation and teaching mentoring for improvement. For instance, the Grade 1-9 Curriculum particularly emphasizes the school-based curriculum development. Therefore, in the future, the elementary schools and junior high schools should positively develop curriculum with the characteristics of the schools, especially grasping the meaning of the assessment and understanding the procedures as well as the main points of the curriculum assessment to ensure the appropriateness of the curriculum's content.

Consequently, the curriculum leader should guide the curriculum development committee to construct the model and indicators of the school's curriculum assessment, and timely explain to the teachers how to implement the school's internal curriculum assessment in order to carry out the school's curriculum assessment. In addition, by means of various channels, the curriculum leader can understand the students' learning condition and raise the school's competitiveness, care for and inspect curriculum implement in order to target at issues taking place in each school by recruiting a research panel for action research, and continue to conduct feedback to and correction of curriculum teaching in order to ensure the students' learning quality. Ultimately, via sensitive and sharp observation of the problems occurring during implementing the curriculum, the problems can be solved.

iv. Provide a supportive work environment; inspire and respect the members to share

The curriculum leader has to provide administrative resources and support like sufficient time, fund, personnel, and materials to support the development of curriculum. For example, by providing teaching resources, teaching information, and new teaching trends, the teachers can be assisted to solve the curriculum and teaching related problems. Then, a reasonable environment must be set up to lessen the teachers' administrative workload. Otherwise, a quality campus culture must be cultivated, a learning-based school must be constructed, and common time must be arranged for the teachers to proceed conversation and discussion, so that a caring community can be formed to provide necessary consultancy and service to the teachers in implementing the curriculum.

Glatthorn (2000) held that the principal should encourage and promote communication among the members. Fang Te-long (2001) considered that the principal should organize the team of teachers honoring teamwork and cooperation. As for the viewpoint of Wu Ching-shan and Lin Tien-you (2001), the principal is an important curriculum leader. Other than

his/her existing understanding of the curriculum, his/her functions of leadership have to be brought into a full play as well, so that the environment as well as the opportunities can be created for mutual communication and conversation among teachers, and thus benefit the teachers in respect with effective curriculum decision making.

Otherwise, Henderson and Hawthorne (2000) reminded that the leader has to make some changes in respect with organization and management of the school. Besides, Wu Ching-shan and Lin Tien-you (2001) claimed that curriculum leadership supports curriculum reform and teaching improvement with the administrative power and resources. Meanwhile, they indicated that the measures that the principal takes for carrying out curriculum leadership must accept extensive advices, be flexible and diversified, exert overall thinking, and conduct research as well as further study.

Finally, the curriculum leader should value communication and incentives, maintain positive atmosphere and an open attitude, respect the teachers' professional field, and encourage the teachers to take part in curriculum related decision making, and inspire the team morale. He/she should also cultivate good interpersonal relationship, care for the coworkers' and cohere the consensus, dissolve the disputes among team members, and foster their cooperation. More importantly, the curriculum leader should listen to the members' opinions, and pay attention to their needs and feelings, coordinate for each unit to provide support for curriculum implementation, establish important supportive framework, and approve the teachers' contributions through oral praise, awards, and rewards in order to create a quality preschool culture.

v. Strengthen the teachers' curriculum professionalism, and encourage the teachers' growth in expertise

The preschool principal can plan the teachers' professional further study, provide chances and time for the teachers to develop their expertise, and further study on curriculum implementation related professional knowledge and abilities. Based on the teachers' needs and ability, the preschool principal can provide further in-service study, inspire them to participate in curriculum-based study and in-service training, assist the teachers to found further study organizations involving teaching research, reading club, growth group, and etc. Moreover, the preschool principal can establish strategy association and learning-based organizations, take part in curriculum R&D, encourage the teachers to do action studies, and value the teachers' professional curriculum abilities. By promoting continuous professional development, the teachers can obtain knowledge and skills required by curriculum development.

In Glatthorn's (2000) opinion, the preschool principal can foster the teachers' growth by means of professional development, and enhance the curriculum's promotion and reform. As Chung Tien-teng (2002) pointed out, the preschool principal should assist systemization of the teachers' professional knowledge, and shape the new culture of campus curriculum development. In addition, the curriculum leader should cultivate the school's positive and active atmosphere, and enable all teachers to discuss on various teaching projects through both formal and informal organizations, and have the team work's cooperative spirit brought into a full play in order to proceed curriculum integration, design, and research.

By making use of chances, the principal can guide the members to understand or publish curriculum and teaching research outcomes and provide them to share with coworkers.

He/she can encourage the teachers to exert peer supervision, hold teaching observation, and have teachers exchange their feedbacks and viewpoints with one another in order to raise the teachers' teaching efficacy. He/she can further try the best to adjust the teachers' mental attitude, and communicate the importance of the curriculum reform. At last, by providing the necessary consultant services regarding school's curriculum development to the teachers, the principal can assist the teachers' professional growth. By doing so, it will generate important influence on the teachers' professional growth and the implementation of curriculum.

vi. Combine the parents' resources in the communities, and create a quality teaching environment

The preschool can connect with the community's resources to set up the community—school mutually beneficial and co-existent relationship, and form a strong supportive group. For example, the parents, community personnel and professional personnel can join curriculum planning together, develop and share important information relative to the preschool or school district. Besides, the preschool can try to understand the needs of both parents and the students, and utilize proper occasions to explain the general curriculum to the parents and teachers. Or, the preschool can arrange the parent-teacher professional dialogue about the curriculum, and display the outcomes of the preschool's development of the curriculum. Then, the school may invite the parents and the community to participate to visit the fruits of the curriculum development in order to obtain the parents' support, and establish good relationship between the school and the community.

(III) Implication of the indicator construction of the preschool principal's curriculum leadership

The preschool principal's curriculum leadership indicators were constructed according to the overall perspectives of the educational school institutes in the study by Tsai Ching-tien and Wang Chien-hsing (2014). They proposed the overall school curriculum operation philosophy to proceed the development of the school curriculum, including thoughtful and careful constructive ideas of curriculum study, curriculum planning, curriculum design, curriculum implementation, curriculum assessment, and curriculum operation, and the practice action process of situation analysis, vision construction, project design, conduction/implementation, assessment/feedback, and supportive measures. In addition, with the foundation of the interactive model of Tsai Ching-tien and Wang Chien-hsing's (2014) school-based curriculum development theoretical construction and action strategies, and consulting the characteristics of preschool's teaching ecology and teaching planning and design, together with exploring literature related to school curriculum leadership, we have integrated and generalized the indicator system of the preschool principal's curriculum leadership with 6 curriculum leadership dimensions, 16 curriculum leadership items, and 47 curriculum leadership indicators, which has become the interactive model diagram of preschool principal's curriculum leadership indicator system and action strategies (Fig. 2). We further prepare it as the draft of "research on preschool principal's curriculum leadership indicator system" to work as the foundation of the subsequent Delphi questionnaire survey.

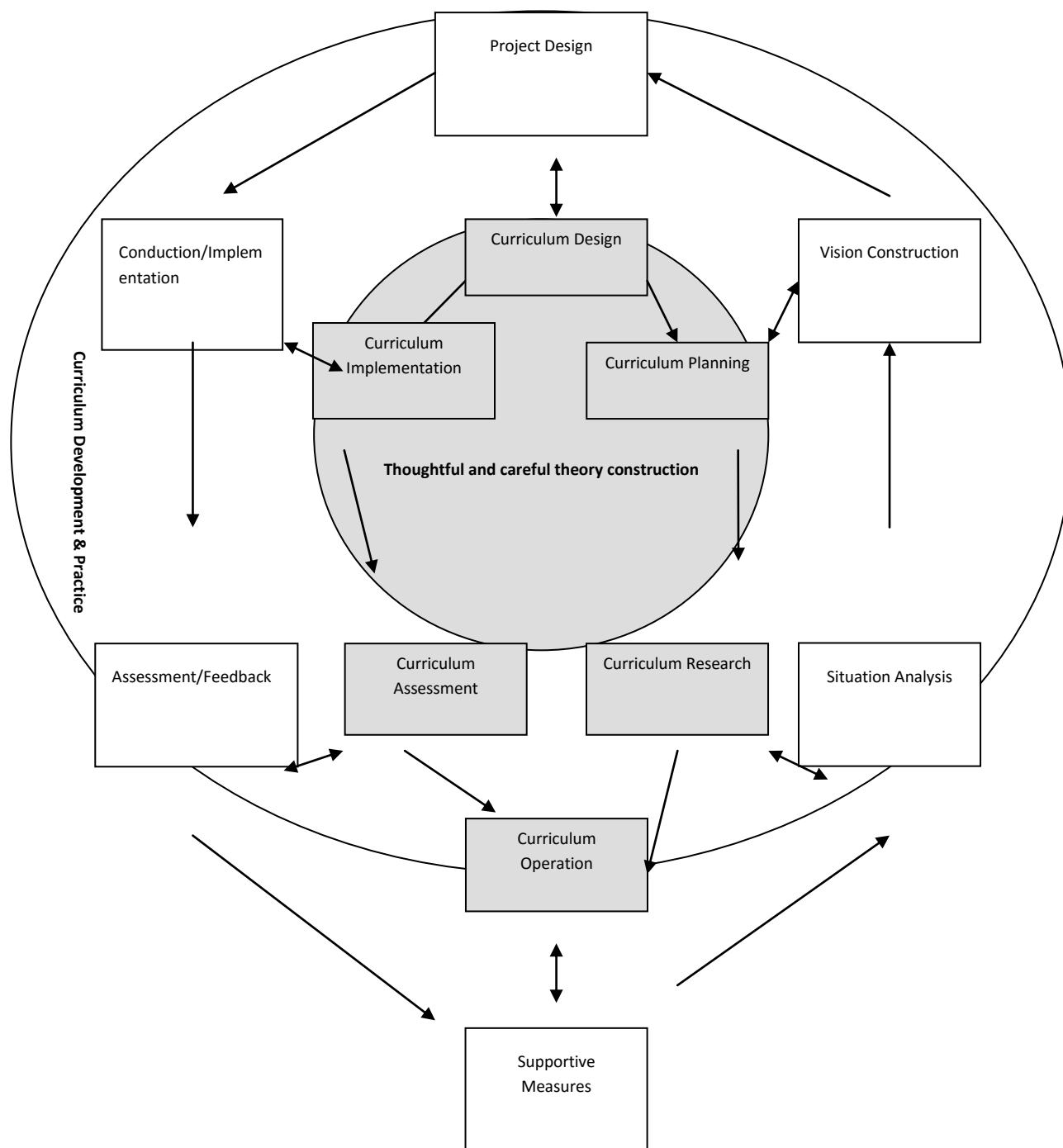


Fig. 1 Interactive model of school-based curriculum development's theory construction and action strategies

Data source: modified from Tasi Ching-tien & Wang Chien-hsing (2014)

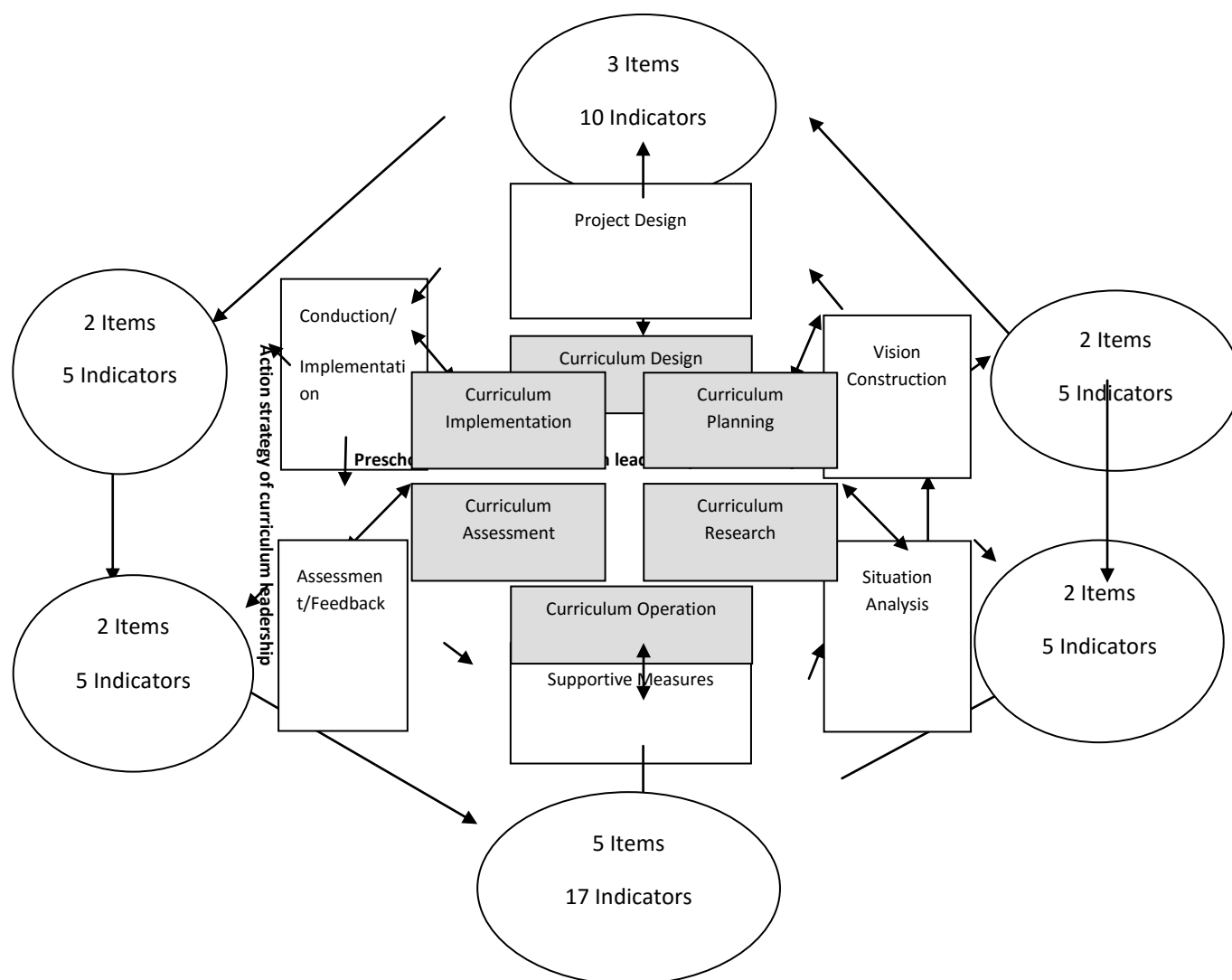


Fig. 2 Interactive model of preschool principal's curriculum leadership indicator system and action strategy

RESEARCH METHODS AND DESIGN

This research aims to explore the dimensions and indicators of curriculum leadership, and construct the preschool principal curriculum leadership assessment tools suitable for educational situations. To achieve this goal, this research has begun with "literature discussion", and undergone 3 rounds of Delphi expert questionnaires to complete constructing preschool principal's curriculum leadership indicators and dimensions.

(I). Research Framework

In addition to literature discussion as the basis of research design, the researcher has also adopted questionnaire survey to collect extensive preschool curriculum leadership related experts' and scholars' opinions. As for the explored dimensions of the preschool principal's curriculum leadership, it includes: (1) Action research on leadership curriculum; (2) Planning action of leadership curriculum; (3) Design action of leadership curriculum; (4) Implementation Action of leadership curriculum; (5) Assessment action of leadership

curriculum; (6) Operation action of leadership curriculum, which are illustrated as Fig. 3, the research framework shows:

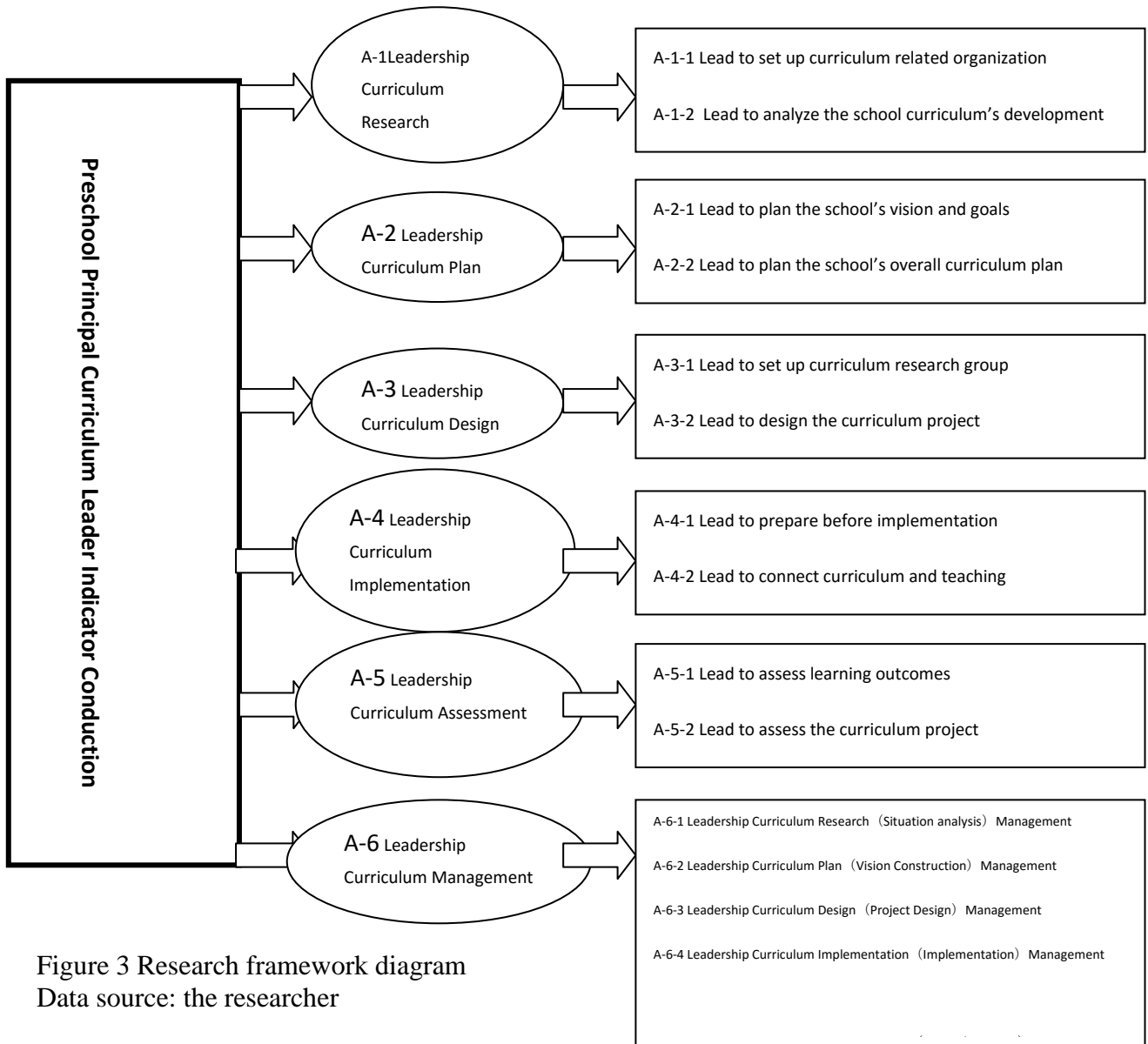


Figure 3 Research framework diagram
Data source: the researcher

Research methods

The research methods adopted by this research include literature review method and Delphi technique method, as described respectively below:

i. Literature review method

According to the research purposes and extensive collection of questions, this study has looked up each kind of literature data, which source comes from: Theses and dissertations in Taiwan, electronic periodical database, Chinese and western periodicals and thesis, Internet data, professional books, and so on. In addition, based on theoretical content and argument

foundation of national and international preschool principal's curriculum leadership, together with the preschool principal's curriculum leadership role, preliminary literature review has been conducted and has been further recounted and analyzed before generalizing and integrating the literature to construct the initial preschool principal's curriculum leadership indicator system.

ii. Delphi Technique Method

The Delphi technique method refers to a group of experts who express their viewpoints with the focus on specific subject, and then collect, analyze, and integrate the viewpoints' content, hoping to obtain consistent opinions through multiple viewpoint expressions. When the experts express their viewpoints, they do not have to discuss face by face, just need to prepare for a series (3-4 rounds) of questionnaires on certain subject in accordance with personal perception and perspectives to express his/her criticism and judgment, and ultimately achieve the experts' consensus.

Considering the preschool principal's traits of curriculum leadership, the first priority was to define population and the selecting criteria of the samples before proceeding sampling and confirming the procedures. The last thing was to set up "the Delphi technique team" composed by those who agreed to join in the research samples. In this research, the population included the educational personnel, curriculum leadership as well as educational administration personnel. The preschool's educational personnel mainly refers to the preschool principal and the director. In this study, the sampling criteria followed the three criteria listed below: (1) Curriculum leadership must possess two important theoretical foundations of the curriculum, and leadership; thus, we took into considerations the samples covering both theory and practice as our first priority; (2) The participants must be able to consider each sub-item and the overall model of "preschool principal's curriculum leadership". Otherwise, the participants must have the abilities of communication and conduction of research; (3) the Delphi technique has to do a series of questionnaire surveys, so the participants must be enthusiastic at taking part in this research.

III. Research samples

According to the property of research subject in this research, and through the above-mentioned sampling criteria, 15 members in the Delphi technique team were divided into the preschool educational personnel and educational experts/scholars, including educational scholars and practical experts like the domestic scholars and public/private preschool principals or directors—7 scholars, 3 preschool principals, and 5 early childhood teachers as well as the directors, totally 15 members. Among them, the part involving the principals and directors refers to the workers serving as the preschool principal and director, with a total of 8 people, as shown in Table 1.

Table 1 Delphi technique samples

	Preschool's Educational Personnel		Scholar/Expert		
	The Principal	The Director	Preschool Curriculum Field	Educational Administration Curriculum Leadership	Indicator Construction
Professional Background					
Sampling No.	3	5	3	2	2
Representative	Yang○○ Huang○○ Wu○○	Chuang○○ Kuo○○ Wei○○ Chiu○○ Tsai○○	Chen○○ Lin○○ Chou○○	TSai○○ Liu○○	Wu○○ Chen○○
Educational Background/Work Experience	Early childhood education college or Child Care related departments	Children's Education or Children's Care Departments in Teacher's College	Early Childhood Education PhD or Philosophy PhD in Foreign Universities	Education PhD or Curriculum PhD in Foreign Universities or Education Master in Normal Universities	Education Bachelor in Internal Normal University
Current Job Title	Current public/private preschool principals in Northern/Southern Districts	Current elementary affiliated preschool directors in Northern/Southern/Middle Districts in Taiwan	Current professors in Children's Education Department in Private University or National Education University	Current professors in National University	Current university professors in Education department

Data source: the researcher

IV. Research Tools

In the first place, this study discussed the collected relative literature, and consulted relative research tools to prepare for home-made questionnaires to be exerted in this study. After drawing up the items, evaluating and analyzing the content's validity, modifying and

accomplishing the pretest questionnaires, implementing the pretest, and analyzing the pretest questionnaires, “Preschool Principal’s Curriculum Leadership Indicator Construction for Delphi Technique Questionnaire Survey” was prepared, which mainly contains six dimensions— “Curriculum Leadership Research Action”, “Curriculum Leadership Planning Action”, “Curriculum Leadership Implementation Action”, “Curriculum Leadership Assessment Action”, and “Curriculum Leadership Operation Action”.

VI. Research results and discussion

Based on the statistic results of the three rounds of Delphi technique questionnaire surveys, we have synthesized the mean (M) and standard deviation (SD) of the indicator items’ scores, and proceeded comprehensive analysis of the preschool principal’s curriculum leadership indicator for discussion, as described below:

(I) Delphi technique questionnaire survey results analysis

For the first, second, and third round of Delphi technique questionnaire surveys, complying with the mean (M) and the standard deviation (SD) of each indicator item, the statistic results have been synthesized in Table 2. With further analysis and generalization of the statistic results listed in the Table, we have elicited some preliminary conclusions, as described following Table 2:

Table 2 Analysis of Delphi Technique Survey Questionnaire Results

Indicator score Indicator aspects Indicator dimensions Indicator items	The first		The second		The third	
	Delphi Technique Survey Questionnaire		Delphi Technique Survey Questionnaire		Delphi Technique Survey Questionnaire	
	M	SD	M	SD	M	SD
A-1 Curriculum Leadership Research Action						
A-1-1 Lead to set up curriculum relative organizations						
A-1-1-1 Set up educare activity curriculum development committee—The preschool principal invited the administrative personnel, teachers, parents, and scholars/experts to organize the preschool educare activity curriculum development committee for promoting school-based curriculum development related work.	5.07	.884	5.73	.458	5.93	.258
A-1-1-2 Set up preschool class, prepreschool class, and preschool class educare activity curriculum development groups responsible for doing R&D on the curriculum suitable for children’s development at specific age group, fostering regular discussing teaching affairs in the	5.20	.862	5.60	.507	5.93	.258

group and inter-groups, so that the coworkers can communicate and feedback through the mechanism, and raise degree of the group consensus of the curriculum philosophy.						
A-1-1-3 Coordinate the involved party about his/her intention of agreeing to take the position of the preschool principal, director, and group leader, the R&D group recruiter, and the classroom instructor of the preschool class, prepreschool class, and preschool class in that academic year.	5.00	1.069	5.67	.488	5.80	.414
A-1-2 Lead to analyze the situation about developing the school's curriculum						
A-1-2-1 Analyze the internal and external preschool's conditions relative to personnel, issues, and things objectively, including the children's learning interests and characteristics, school culture's characteristic context, the local community's characteristic context, the school's software & hardware equipment and facilities, the local community's characteristic resources and their limitation, the parents' educational perspectives and expectations to conduct all-dimensional exploration.	5.40	.507	5.73	.458	5.73	.458
A-1-2-2 Well use the preschool-based curriculum characteristics' influential factors (advantages/disadvantages) to control the principle of making up the weaknesses and making use of the strengths for planning the thematic curriculum's developing focus, and arrange the school's overall curriculum's developing trend to create the preschool-based curriculum characteristics that can meet the school's demand.	5.47	.640	5.80	.414	5.87	.352
A-2 Curriculum Leadership Planning Action						
A-2-1 Lead to plan the school's visions and goals						
A-2-1-1 Summon the educare activity development meeting, and invite the directors, group leaders, teachers, scholars/experts to discuss together to plan the overall curriculum vision of their own preschool.	5.13	.915	5.80	.414	5.87	.352

A-2-1-2 Follow the curriculum vision set up by the preschool, and regulate clear and definite teaching goals as well as learning indicators (covering the preschool's curriculum guidelines) for the teacher to plan the project plan or thematic guidelines, and work as reference of coordination in team teaching.	5.33	.724	5.73	.458	5.73	.458
A-2-2 Lead to scheme the school's overall curriculum plan						
A-2-2-1 To consider the spirit of the preschool's educare curriculum guidelines, local characteristic curriculum's needs, and the preschool's characteristics to draw up the methods for the plan of the teacher's self-preparing for the curriculum material or regulating the selection method for supportive teaching materials in order to design the preschool-based curriculum content.	5.47	.743	5.67	.488	5.80	.414
A-2-2-2 To draw up the preschool's curriculum work plan and the preschool's schedule, daily teaching routine, and teaching activity estimative list in the new school year according to the teaching demand that gets along with processing teaching related activities.	5.33	.816	5.67	.488	5.73	.458
A-2-2-3 To guide the teachers to follow the school vision and link with the preschool's equipment conditions for planning the monthly, semester's, and school year's plan that cover administration, teaching affairs curriculum in order to conduct regular discussion and modification.	5.33	.816	5.87	.352	5.87	.352
A-3 Curriculum Leadership Design Action						
A-3-1 Lead to set up curriculum research group for each age group or each learning field						
A-3-1-1 Lead to set up educare activity curriculum development team (preschool class, prepreschool class, and preschool class).	5.20	.941	5.80	.414	5.93	.258
A-3-1-2 Lead to ensure the curriculum plan's goal and teaching project's goal (including each age group or each learning field).	5.27	.961	5.67	.617	5.87	.352

A-3-2 Lead to design curriculum projects for each age group or each learning field						
A-3-2-1 Under the premise of valuing teachers' opinions, lead each group members to plan the curriculum project's teaching guideline and preset activities (including each age group or each learning field).	5.27	.594	5.67	.488	5.87	.352
A-3-2-2 Under the premise of valuing teachers' opinions, lead each group members to organize the curriculum teaching materials and supplementary curriculum teaching materials together(including each age group or each learning field).	5.13	.640	5.73	.458	5.87	.352
A-3-2-3 Under the premise of valuing teachers' opinions, lead each group members to design the curriculum teaching activities together (including each age group or each learning field).	5.33	.724	5.80	.414	5.87	.352
A-3-2-4 Under the premise of valuing teachers' opinions, lead each group members to regulate the curriculum project assessment tools together(including each age group or each learning field).	5.20	.676	5.80	.414	5.93	.258
A-3-2-5Lead to design and coordinate to integrate the teaching supportive resources (including each age group or each learning field).	5.27	.594	5.53	.516	5.80	.414
A-3-3Lead the trial, modification, and verification of the curriculum project for each school age group or each learning field						
A-3-3-1Inspect and integrate the school's overall curriculum content to comply with the regulations in the county/city government and the requirement of the local culture's demand.	5.53	.640	5.73	.458	5.87	.352
A-3-3-2 By means of learning-based organizations (teaching conference, preschool or inter-preschool teaching observation, teaching outcome display, or teaching community) , proceed mutual learning and retrospection, and moderately modify each curriculum project and try to use it practically.	5.47	.743	5.80	.414	5.93	.258
A-3-3-3Process parent-teacher seminars and outcome display to propagate the curriculum projects, and	5.47	.743	5.67	.488	5.80	.414

integrate parents', community residents', and local personnel's opinions to ascertain even more complete, diversified curriculum project.						
A-4 Curriculum Leadership Implementation Action						
A-4-1 Preparations made before, during, and after implementation of leadership						
A-4-1-1 Inspect and prepare for the required resources before, during, and after implementing the curriculum to fully support the teachers' needed resources when they implement the curriculum projects (including administrative resources and teaching resources).	5.40	.737	5.73	.594	5.80	.414
A-4-1-2 According to the practical demand, process relative educational personnel's educare curriculum study and training to cultivate the required techniques and professional knowledge/skills in implementing new curriculum, and enrich the teachers' all-dimensional abilities.	5.47	.640	5.67	.617	5.73	.594
A-4-1-3 Through propaganda, assembly, community activities, and other channels, promote and explain to the students, parents, and community personnel.	5.47	.743	5.87	.352	5.80	.414
A-4-2 Lead to connect the curriculum and teaching						
A-4-2-1 The preschool principal compacts the latest measures and reactive approaches of the preschool's curriculum development reform, and integrates them into the organization norms and common value system to foster teachers' control of effective curriculum implementation methods.	5.47	.640	5.87	.352	5.93	.258
A-4-2-2 Foster the teachers to have professional discussion, teaching observation communication, and so on, together with team teaching as well as professional teaching community to promote connection of leadership curriculum and teaching.	5.27	.704	5.53	.640	5.87	.352
A-5 Curriculum Leadership Assessment Action						
A-5-1 Lead to assess learning effect						
A-5-1-1 Set up a "diversified" assessment system to proceed "formative assessment" and "generic	5.40	.737	5.73	.458	5.93	.258

assessment” to assess children’s ability development condition, such as editing the personal learning profile & assessment book						
A-5-1-2 Through teaching observation, teaching outcome display, teacher’s teaching profile assessment, and teacher’s professional development assessment to evaluate the teacher’s teaching effect.	5.47	.640	5.67	.488	5.80	.414
A-5-1-3 Check, inspect, and retrospect effect relative to administrative support in order to proceed the preschool’s self-assessment of its administration.	5.53	.640	5.80	.414	5.87	.352
A-5-2 Lead to assess curriculum project						
A-5-2-1 Guide each school-age directors, group leaders, and teachers (preschool class, prepreschool class, and preschool class) to conduct assessment together aiming at the effect of proceeding the preschool’s overall curriculum project.	5.20	.775	5.87	.352	5.93	.258
A-5-2-2 Through the children’s capability development record, learning profile (school-year/semester), parent-teacher-child interviews, feedback record sheet, learning sheet, and so on to assess each school-age’s (each learning field) curriculum project’s benefit.	5.40	.632	5.67	.488	5.87	.352
A-6 Curriculum Leadership Operation Action						
A-6-1 Lead the operation of curriculum research (situation analysis)						
A-6-1-1 Value the preschool principal’s philosophy as well as tasks of curriculum leadership, and summon educare activity curriculum development meeting depending on the need.	5.40	.737	5.67	.488	5.80	.414
A-6-1-2 Turn the educare activity curriculum development committee into curriculum conference, and provide communication and integration of the school’s administrative personnel, teachers, students, and etc. in order to lead to the even more professional and democratic process.	5.07	.799	5.67	.488	5.80	.414
A-6-2 Lead to plan operation of the curriculum planning (vision construction)						

A-6-2-1 Urge the educare activity curriculum development committee to draw up the vision and guidelines for the preschool's curriculum development	5.13	.834	5.73	.458	5.87	.352
A-6-2-2 Positively use each timing and occasion to proceed teaching communication with the directors and group leaders in order to achieve the consensus of the curriculum operation.	5.47	.743	5.67	.488	5.67	.488
A-6-2-3 The preschool principal must thoughtfully plan feasible overall goals and plans for physically carrying out the goals.	4.80	1.373	5.80	.414	5.87	.352
A-6-2-4 Make use of human labor that the school can provide, and integrate each place, thing, and wealth resources to set up a set of digital teaching resource website, which is well used and solidly operated.	5.07	.884	5.60	.632	5.73	.458
A-6-3 Lead the operation of curriculum design (project design)						
A-6-3-1 Guide the teachers to take care of the balance of territory, meet the children's demand of development, and value the individual difference to conduct selection, design, compaction, and innovation of the teaching project's subject/unit, and ultimately develop an integrative project design.	5.40	.737	5.80	.414	5.80	.414
A-6-3-2 Encourage communication and coordination, and bi-directional interaction to foster the goals and content of the project's domain can achieve the vertical coherence and horizontal integration.	5.40	.828	5.93	.258	5.93	.258
A-6-3-3 By means of sharing the practical experiences and model learning, the teachers can take them as reference for designing teaching design, and pursue advance and elevation of teaching project's learning.	5.40	.828	5.80	.414	5.80	.414
A-6-3-4 Supervise the teacher's designing teaching blueprint that covers output plan, project design, teaching tools and material resources, teaching outcomes, the subsequent teaching extension activities, and so on to solve the teaching site's issues.	5.07	1.335	5.67	.488	5.80	.414

A-6-3-5 Develop the cooperation atmosphere among the members of curriculum project design team, and inspire each worker to try the best to take his/her own job responsibilities.	5.47	.640	5.80	.414	5.87	.352
A-6-4 Lead operation of curriculum implementation						
A-6-4-1 Through hosting in-service study and training curriculum project, learning community, expert/scholar's mentoring, teaching observation, and so on (both in-school and out-school), use multi-channels to raise the educators' knowledge, ability, and skills in implementing curriculum.	5.40	.632	5.67	.488	5.13	.743
A-6-4-2 Grasp the vital items in curriculum implementation, take the tour to inspect each class's teaching condition, and offer teaching consultancy depending on the actual need.	5.33	.976	5.73	.458	5.87	.352
A-6-4-3 According to the children's learning characteristics and advantageous and disadvantageous abilities to provide proper and timely teaching resources, such as teaching tools operation, learning sheet, or opening after school care, and arrange rich, diversified, and proper learning curriculum.	4.93	1.335	5.40	.632	5.80	.414
A-6-4-4 Coordinate and communicate propaganda relative to issues, and develop a positive, harmonious, good, and supportive curriculum implementation atmosphere.	5.47	.834	5.73	.458	5.73	.458
A-6-5 Lead the curriculum assessment operation (assessment feedback)						
A-6-5-1 Under the premise not to influence the teacher's educate energy, incorporate the school's human labor, and set up curriculum assessment team to conduction conclusive assessment and formative assessment aiming at the overall curriculum. Feedback is provided anytime during the conduction stage.	5.13	1.060	5.67	.488	5.73	.594
A-6-5-2 Invite the teachers to do educational action research together to carry out the curriculum reform ideal and the philosophy that the practitioners are also the researchers, in order to achieve deepening the	5.13	1.060	5.67	.488	5.53	.640

children's learning implication.						
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Data source: the researcher

To incorporate the three Delphi Technique Questionnaire Surveys' scores, we generalized several analytical results: From Table 1, it is learned that all the third Delphi Technique Questionnaire Surveys' indicators show a standard deviation less than 1, and the value of the mean tends to get larger gradually, which means that the opinions of the members in the expert team has achieved centrality. Besides, all indicator items show the standard deviation values less than 1, which means that the members tend to have consistent opinions.

(II). Comprehensive discussion and analysis

After three rounds of the Delphi Technique Expert Questionnaires, among the preschool principal's curriculum leadership indicators, 6 aspects and 16 dimensions were not modified, and only part of the indicator items converted the logic order, and expanded the domain implication, and some of them were adjusted by supplementing the implication to make them even more fit the indicator content for the preschool principal's curriculum leadership. For beneficial understanding and display, the following Figure 4 demonstrates the interactive model between the preschool principal's curriculum leadership's indicator system and action strategies. From the literature discussion, in addition to the theoretical content and argument foundation of the preschool principal's curriculum leadership, we have found three main points from the Delphi Technique's survey results; that is, the aspect of role of the preschool principal's curriculum leadership, and the interactive model of the curriculum leadership's indicator system and the action strategy as follows:

i. The preschool principal is also the leader of school's curriculum, and takes responsibility of diversified curriculum leadership

The preschool principal's role tasks and functions are multiple and complicated, and the principal's leadership involves the professional functions of leading, managing, and education promotion, while the aspects of the abilities for him/her to cultivate relationship with others cover both leading as well as education promotion. Next, the principal's educational background must cover curriculum leadership behaviors in the preschool-based curriculum development, with the characteristics of cohering consensus, co-shaping the vision, and developing preschool-based curriculum's content. Particularly, the principal's role of leadership includes leadership curriculum research action (situation analysis), leadership curriculum planning action (vision construction), leadership curriculum design action (project design), leadership curriculum implementation action (operation and implementation), leadership curriculum assessment action (assessment and feedback), and leadership curriculum operation action (supportive measures).

In addition, in order to achieve preschool-based curriculum development, the school must establish "Curriculum Development Committee", inviting administrative personnel, teachers, and parents to co-regulate the process and principles of the preschool's curriculum development. For the school's curriculum development organization, the principal must guide the teacher and the parent representatives to take part in communication through the school affairs organization's manipulation. Then, by means of "Educare Activity Curriculum Development Committee" and "Educare Activity Curriculum Development Meeting", in-depth analysis must be conducted for the school's Curriculum Development background involving with the school's geographic environment, the school's scale, hardware equipment,

teacher's resources, students' traits, parents' background, community resources, and other aspects. Moreover, the school vision is the big direction of Curriculum Development, and it is a kind of common expectation on the school's Curriculum Development, so the principal should recruit the teachers to discuss the curriculum's plan framework together before the semester begin, work hard to make the plan framework corresponding to the school vision, and thus construct the school's curriculum plan's framework. Based on the vision and curriculum plan, the curriculum can be put into practice. In the meantime, the curriculum can be adjusted according to the teachers' needs. When it comes to curriculum assessment, it is mainly exerted to improve the curriculum and the students' learning effect. Lastly, curriculum operation is a crucial stage, it penetrates through every link in the curriculum development process, and has close relationship with the curriculum development activities in each stage.

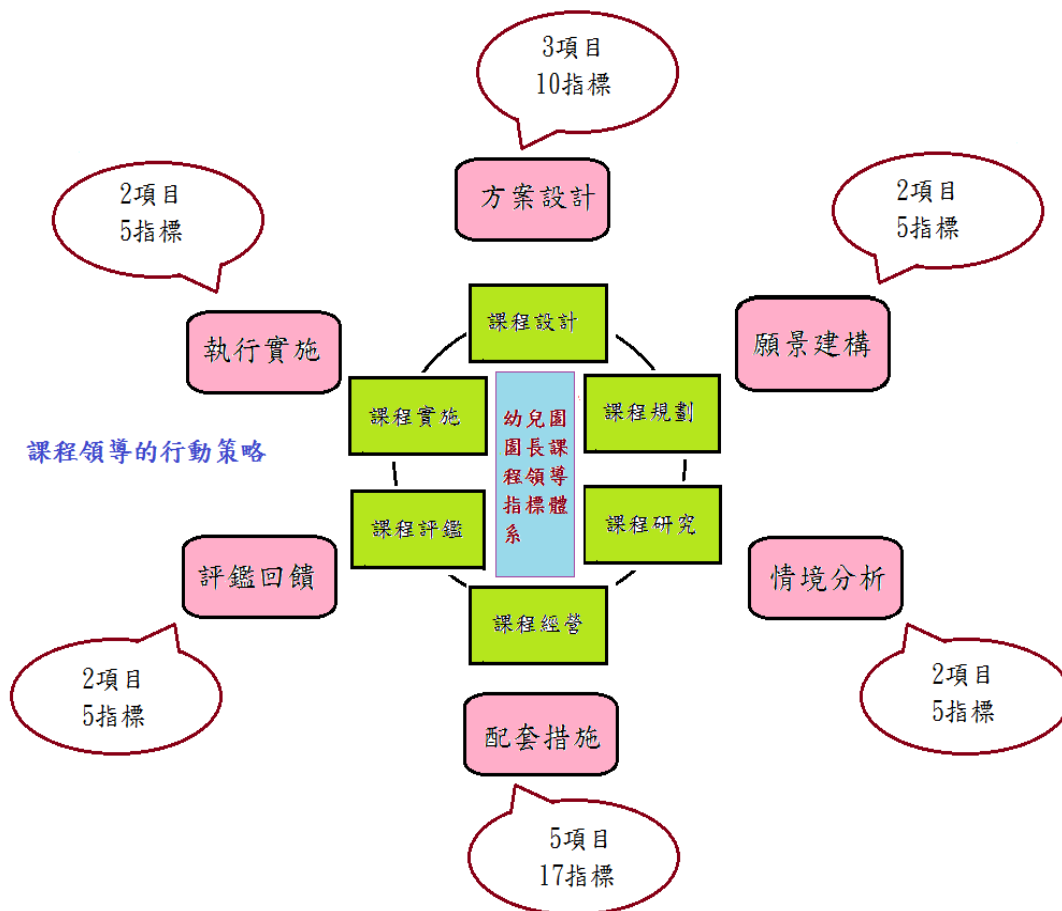
ii. Consult with the curriculum leadership's argument foundation and theoretical content to construct the preschool principal's curriculum leadership indicators

In the first place, "the preschool principal's curriculum leadership indicators" include leadership curriculum research action, leadership curriculum plan action, leadership curriculum design action, leadership curriculum implementation action, leadership curriculum assessment action, and leadership curriculum operation action, concretely indicating how the preschool principal's curriculum leadership should evaluate the situation, how to construct the school vision, which project design should be done, how to effectively operate and implement, how to assess and feedback, and what are the supportive measures. Therefore, it is certainly helpful for the principal to jump out of the traditional yoke, and carry out curriculum leadership by means of personal groping, experience accumulation, and so on to implement curriculum leadership. Actually, curriculum leadership indicators plan the feasible important aspects, dimensions and items, and the concrete relative procedures or process in curriculum leadership. Next, at this point, through the preschool principal's content and theory analysis of the principal's curriculum leadership, the theoretical foundation and standard is set up on one hand. On the other hand, referring to both internal and foreign physical measures of curriculum leadership, the principal's curriculum leadership indicators can be modified and supplemented in order to be consistent with the developing trend. Together with the Delphi Technique surveys, the fit of those indicators can be further enhanced.

iii. The preschool principal's curriculum leadership indicator system includes situation analysis, vision construction, project design, operation implementation, assessment and feedback, and supportive measures, forming the interactive model of preschool principal's curriculum leadership indicator system and action strategies that keeps on improving dynamically

Through literature analysis and Delphi Technique surveys, "the interactive model of preschool principal's curriculum leadership indicator system and action strategies" has been constructed (Fig. 4). It indicates that during the preschool principal implementing curriculum leadership, he/she must value leadership curriculum research action, leadership curriculum design action, leadership curriculum implementation action, leadership curriculum assessment action, and leadership curriculum operation action, and go into the six aspects' situation analysis, vision construction, project design, operation implementation, assessment and feedback, and supportive measures. In addition, the preschool principal has to play the proper curriculum leadership role, and adopts appropriate curriculum leadership action. By means of assessment and feedback as well as supportive

measures, the principal can improve the curriculum development mechanism, and further raise the curriculum leadership efficacy. By the abovementioned six aspects, items and indicators have constructed dynamically developing preschool principal’s curriculum leadership model that are characterized with flexibility, diversity, adaptability, continuity, and performativity. In addition to develop into physical preschool principal’s curriculum leadership indicators and items, people can promote, propagate, and implement, which will help the principal implement curriculum leadership, and continue to modify the model through the curriculum leadership practice, forming a continuously dynamic developing model . Otherwise, in applying the model, the preschool principal should further adjust the indicators as well as the items flexibly according to his/her own actual situation context’s demand. Meanwhile, he/she can list curriculum leadership tasks and conducts based on the priority-inferiority sequence depending on the actual demand or situation context. Alternatively, the preschool can select several items that the preschool needs the most urgently or the core part that requires strengthening the most, along with the necessary curriculum leadership action strategies, which will be effective with the least efforts.



RESEARCH CONCLUSIONS AND RELATIVE SUGGESTIONS

According to literature analysis, and the Delphi Technique survey questionnaires’ results and analysis, this research proposed the following conclusions:

- (I) **The preschool principal’s curriculum leadership’s argument foundation and theoretical content was constructed on two major foundations of curriculum theory and leadership operation theory, with characteristic academic value.**

For the preschool principal's curriculum leadership's argument foundation and theoretical content, there are certainly theories for the preschool principal's curriculum leadership, and his/her curriculum leadership's theoretical content include administrative leadership operation theory and the curriculum theoretical foundations. Since it is not enough to well carry out curriculum leadership with curriculum theory only. Oppositely, with only administrative leadership operation theory, it will not effectively achieve curriculum leadership of situation analysis, vision construction, project design, operation implementation, assessment and feedback, and supportive measures. Therefore, administrative leadership operation theory and curriculum theory must support each other, and connect with each other closely. It will present the academic value of the unique and the complete curriculum leadership of the principal through the trans-discipline integration of curriculum and leadership domains. When the preschool principal's curriculum leadership practices preschool-based curriculum development, the curriculum operation's philosophy and practical affairs must both be stressed. Here, so-called curriculum operation refers to the school's operation team proceeding sustainable development of curriculum leadership through a series of curriculum leadership actions. Curriculum operation, especially the sustainable development of curriculum leadership, includes curriculum leadership situation analysis/research and vision/goal plan at the policy level. On the other side, it covers the curriculum management at the professional, such as project design, conduction/implementation, and assessment/feedback. Furthermore, it even links with the supportive measures of curriculum administration at the operation level to be regarded as a complete cycle of curriculum leadership and operation. Otherwise, when the preschool's operation team faces the curriculum reform and issues of promotion, the philosophy of the sustainable operation of curriculum leadership development should be grasped. By doing so, the principal will look for the promotion strategies, action guidelines, and supportive measures that comply with the school situation to the most extent. Ultimately, the overall curriculum's sustainable operation and promotion will be proceeded successfully.

(II) In the school, the preschool principal is the primary curriculum leader who has also play the role of diversified curriculum leadership, and who can actively takes responsibility of the diversified leading duties and tasks

For the important aspects of the preschool principal's curriculum leadership role, there are six aspects: 1. Cohere the school curriculum's vision, set up the school curriculum's goals; 2. Strengthen the school curriculum's organization, scheme the school curriculum's plan; 3. Examine the curriculum's normal practice, and conduct the curriculum's assessment and feedback; 4. Develop supportive work atmosphere, inspire/respect members' sharing; 5. Strengthen the teachers' curriculum expertise; inspire the teachers' professional growth; 6. Link with the community's parent resources, and set up a good teaching environment. According to the items related to the preschool principal's treating the job responsibility, there are four aspects, including administrative work, curriculum domain teaching, children care, and educational promotion, showing that the preschool principal must take job responsibilities of "administration, curriculum and teaching, child care, and education promotion. In addition, based on literature analysis and Delphi Technique survey results, it is found that the preschool principal's diversified roles include: (1) planner, supervisor, and participant; (2) curriculum and teaching leader; (3) communicator and coordinator; (4) the inspirer and supporter of the teacher; (5) problem solver; (6) mentor and consultant; (7) life-time learner; (8) work lover; (9) he who with innovative ideas; (10) critic and retro-spector; (11) cooperator. At this point, the corresponding duties contain (1) Establish the curriculum's vision and goal; (2) Connect the national, school, and local curriculum; (3) Develop and

operate curriculum; (4) Implement and manage the curriculum; (5) Develop the team member's expertise; (6) Students' learning and improvement; (7) Shape the curriculum professionalization; (8) Reshape the organization's structure; (9) Introduce and support resources; (10) Inspire the community's participation; (11) Assess the curriculum and teaching. From the Delphi Technique Survey's results, it further points out that when the preschool principal takes the curriculum leadership role, people must value situation analysis, vision construction, project design, conduction/implementation, assessment/feedback, and supportive measures in the leadership curriculum research action, leadership curriculum plan action, leadership curriculum design action, leadership curriculum implementation action, leadership curriculum assessment action, and leadership curriculum operation actions.

(III) Currently, Taiwan has followed the trend that foreign scholars value curriculum leadership, and connect with the local need to develop a set of curriculum leadership role criteria to be consulted with by the preschool principals or other curriculum leaders gradually

As far as the importance of the preschool principal's curriculum leadership role, in the literature content, we can find that the foreign scholars indicated the implementation condition of the world countries of the curriculum condition, which can be classified into the main curriculum leader, the role and tasks of the curriculum leader, the curriculum leadership's model and development, and etc. In recent years, Taiwan has joined in this international developing trend, but different from the past, Taiwan has become more positive in promoting the educational reform, enabling loosening of the preschool-based curriculum development philosophy and policies to emerge. In this case, it emphasizes on diversity, selection, hope, ownership, self, democracy, efficiency, effect, and technique as the combination of dual signifier, resulting in the local curriculum leadership role to generate, particularly referring to the school-based curriculum leadership role. Of course, it also encounters certain unprecedented challenges and some issues that require modification and contingency. Presently, in order to effectively promote the school-based curriculum development, in Taiwan, from the principal, the head of the preschools, and teachers have started to care the issues and methods of the curriculum leadership, while the educational academic personnel also started to increase studies related to curriculum leadership. The focus of these studies related to curriculum leadership is not limited to the principal's curriculum leadership nor the director's curriculum leadership, neither is it restricted to the elementary stage. After integration of child care centers with preschools, the curriculum's development in the preschool becomes even more un-neglectable, and it has seemingly become even more emphasized by the public. In the preschool, the principal may share the burden of curriculum leadership with the second promoter. Regardless of the principal, the administrative personnel, or teachers may play the role of curriculum leadership. As a result, curriculum leadership in the preschool has its ignorable importance and position, which should be highly stressed.

(IV) The curriculum indicators present consistently development action strategy model, including 6 levels, 16 indicator dimensions and 47 indicator items

Targeting at the preschool principal's curriculum leadership indicator system and action strategies, through literature analysis, the Delphi Technique survey results, and etc., the preschool principal's curriculum leadership indicators had been constructed, finding that when the above-mentioned curriculum theory and administration theory are integrated, with the tendency and guidance by diverse curriculum leadership theories and orientation

guidance, the previously mentioned curriculum leadership's indicator system as well as two major theoretical integration, under the guidance of different curriculum leadership of orientation, the situation analysis, vision construction, project design, conduction/implementation, assessment/feedback, and supportive measures were generated, and developed corresponding to 16 indicator dimensions and 47 indicator items. Particularly, about the action strategy mode dynamically developed through the preschool principal's action strategies, on one hand, school run teams have proceeded school-based curriculum development project reform; on the other dream, through preschool principal's curriculum leadership educare activity development team, curriculum research (situational analysis), curriculum planning (vision construction), curriculum implementation (conduction/implementation), project design (curriculum design), and curriculum implementation (conduction/implementation) is developed by the actual action strategies.

(V) The preschool principal's curriculum leadership indicator system is proper

This research conducted three rounds of the Delphi Technique Questionnaire Surveys, and there were a total of 15 expert team members. We proposed explanations aiming at the expert team members' fit for the preschool principal's curriculum leadership indicator. According to the survey results, it was found that the statistic values of the third survey, all 47 deviation values are less than 1, and 46 indicator items' mean values are higher than 5.5, and tend to get higher increasingly. It is thus learned that the expert team members had extremely high degree of consensus of the preschool principal's curriculum leadership indicator content, and there are consistency among the members' opinions.

According to the research finding and the previously mentioned conclusions, we proposed the relative suggestions as follows:

(I) The preschool principal plays a critical curriculum leadership role, if he/she can properly coordinate the relationship among teachers, the team power will be able to get integrated to enhance the curriculum development

According to the conclusions, the foreign scholars generally value curriculum leadership In Taiwan, the scholars have responded to the trend, and gradually develop models and measures of curriculum leadership for the preschool principals or other curriculum leaders to consult with. The research conclusions also point out that the preschool principal is the primary curriculum leader in school, and he/she plays diversified role aspects, and is able to take a variety of the responsibilities of curriculum leadership. Therefore, the preschool principal taking the responsibility of playing the role of curriculum leadership has to face not only the teachers, but also the administrative personnel, the parents, students, and community people, so how to seek for the balanced development of the parties' viewpoints is not an easy task. As a result, the preschool principal as the curriculum leader must be a communicator good at coordinating. With teachers' participation, there will not a successful curriculum reform, so the teachers are one of the important roles in curriculum reform. When the principal and the teachers develop the school curriculum together, he must be a sympathetic carer and cooperator who can negotiate together to work with the teachers to make efforts for the purpose of developing curriculum. In addition, the preschool principal must be a leader worthy of the administrative personnel's trust to obtain the leading right in developing the curriculum. By such way, the coworkers in the leadership team can devoted themselves to following the principal's leadership and share success as well as failure with the principal.

(II) The preschool principal should be a model to promoting curriculum development, and be a good model for the coworkers to learn, and bring the functions of the curriculum leadership to a full play

According to the conclusions, the preschool principal's curriculum leadership theories include curriculum theory and leadership operation theory, with the unique academic outlook. Therefore, since the preschool principal is a curriculum leader, regardless of the job responsibilities, he/she must show high enthusiasm at his/her work, and demonstrate a model among the team members. He/she is a positive and active learner, a critic that discovers the problem, and a thinker that considers from all angles. Since he/she is full of zest, so he/she owns the supportive power to push the curriculum leadership work, while his modeling can be an good example for the teachers to learn positively, and thus raise the dynamic power for the team to make progress. Moreover, the principal will absorb new knowledge positively and actively, enabling the curriculum development not to go astray. He is the critic who finds the problem, so he/she will not become a blind following that pursue popular current. Rather, he/she can learn a lesson from the experiences, conduct retrospection, and further walk a path for the school-based curriculum meeting the demand of the school.

(III) The preschool principal can consult the curriculum leadership indicators and adopt the supportive action strategies in order to successfully achieve the vision that the school curriculum develops for sustainable operation

According to the conclusions, the preschool principal's curriculum leadership has 6 aspects, 16 dimensions, and 47 indicator items, forming the curriculum leadership action strategy model that keeps on dynamically improving and developing. The preschool principal can refer to the curriculum leadership's indicators for taking proper action strategies, such as guidance strategy, collaboration strategy, team strategy, imitation strategy, natural adaptation strategy, procedure strategy, and other curriculum leadership strategies for the teacher's team to receive new concepts in the beginning. In leading the school-based curriculum development, the preschool principal cannot be in a hurry nor impulse by enforcing the teachers to be a curriculum expert in one day. Instead, the preschool principal can consult with the curriculum leadership indicators to take appropriate action strategies, like guiding strategy, collaborative strategy, the team strategy, imitation strategy, natural adaptation strategy, and step by step curriculum strategies for the teacher's team receiving new concepts in the beginning. The teachers can absorb others' successful measures and adopt team cooperation to proceed curriculum development, rather than working independently or getting success in a jiffy for lessening the team workers to face the sense of failure. At this moment, especially, when the teachers are in the process of developing project, they cannot avoid to meet their coworkers. Now, the preschool principal can bring his sympathy to inspire , the preschool and remove the maze condition, and even shows how to develop the sympathy for solving the bottleneck and maze to lessen the sense of frustration and rejection workers. Particularly, when the teacher is in the process of developing the curriculum, He/she may be hindered at the bottleneck or trapped in the confusing condition, even feeling tired and a sense of weariness. At such time, the preschool principal playing the critical role should develop the sympathy to urge the coworkers to cheer up, raise their fighting power, so that the sustainable operation of curriculum development can be promoted smoothly.

(IV). In the future, by means of in-service study/training to enhance the abilities, the curriculum leader can raise the curriculum leadership qualities in aspect with elevating the curriculum research level, curriculum plan, curriculum design, curriculum implementation, curriculum assessment, and so on.

For the preschool principal, the curriculum leadership's indicator aspect has completed construction, showing the importance of leadership curriculum research action, leadership curriculum plan action, leadership curriculum design action, leadership curriculum implementation action, leadership curriculum assessment action, and leadership curriculum operation action. It is apparent that the local preschool principals considerations on curriculum leadership content mainly focus on leadership curriculum research, leadership curriculum plan, leadership curriculum design, leadership curriculum implementation, and leadership curriculum assessment. However, it does not mean that their curriculum leadership quality has achieved complete or perfect. As a result, in the future training or energization study, the preschool principal's curriculum leadership quality may be cultivated by means of curriculum research, curriculum plan, curriculum design, curriculum implementation, curriculum assessment.

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