

The Application of M-Learning & Knowledge Management in the Grade 1-9 Curriculum

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Abstract : The Study of this research is to realize the the study of applying m-learning and knowledge management in the Grade 1-9 curriculum, and viewpoints of the related questions of the Grade 1-9 curriculum, and to offer the practical suggestions. There are “questionnaire” and “interview” involved in this study. The public elementary school teachers in Kaohsiung city are the main objects in this research. After arranging these data, we obtain some suggestions from the findings of this study. Actually, the main conclusions of the study are as follows:

1. Most of the elementary school teachers tend to stand for the state enforcement of the Grade1-9 curriculum.
2. There is a significantly different level among these items (sexuality, age and position in school) in the understanding of the theory of the Grade1-9 curriculum of the elementary school teachers.
3. There is a significantly different level at the item (total classes in school) in the understanding of the concept of the Grade1-9 curriculum of the elementary school teachers.
4. There is a significantly different level among these items (sexuality, highest diploma and total classes in school) in the understanding of the curriculum innovation of the Grade1-9 curriculum of the elementary school teachers.
5. There is a significantly different level at the item (different background) in the thoughts of the elementary school teachers on forming a complete set and the attitude towards reform.
6. There is a different level at the item (different background) in the current executive situation of the Grade1-9 curriculum of the elementary school teachers.

Finally, according to the conclusions of the study, we hope to offer some suggestions for teacher-training institutions, educational authority, and administrators of elementary school, elementary school teachers and the future research.

Keywords: elementary school teacher, Grade1-9 curriculum, curriculum innovation.

1 Beginning

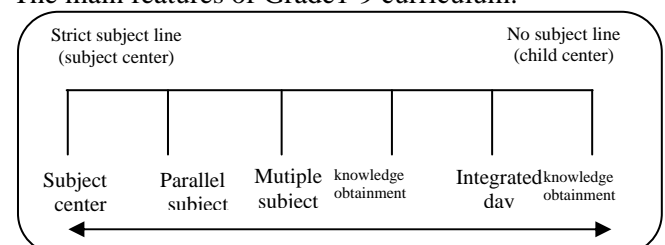
Nowadays, many teachers and social populace have some variance about the state implementation of Grade1-9 curriculum, because of policy formulation department from top to bottom and insufficient basic level participation. This research will explore elementary teachers in the state enforcement of Grade1-9 curriculum and the understanding of the content. One of the research motives is to analyze the influence in curriculum reform.

Furthermore, the researchers will comprehend the state implementation of Grade1-9 curriculum

from administrators of elementary school and elementary school teachers to inquire into how aims at the above questions, and from knowledge obtainment, share and innovation to give solvable comment and suggestions.

2 Content and features of Grade1-9 curriculum

The main features of Grade1-9 curriculum:



2.1 “Ability standard” substitutes for traditional “discipline standard” in the curriculum plan design

The former curriculum standard focuses on subjects primarily by separating fields to teach. There are some limits between subjects. We only stress on knowledge instilling for entering a higher school and reciting like machines. We ignore the integration of the development of students’ body, mind and their life experience, so their learning becomes fragmentally uncompleted and disconnects with lives. The Grade1-9 curriculum substitutes “Grade 1-9 Curriculum Guidelines” for “curriculum standard”. We give the right of curriculum development to schools and teachers. It not only promotes teachers’ expertise, but also embodies schools’ flexibly independent space.

2.2 Stress school-based curriculum development and curriculum integration, and respect teachers’ expertise

The design and decision of the former curriculum focus on national consistent standard. Thus, we lack local, aboriginal curriculum and teaching materials, but they can’t connect with social environment. The statements of Grade1-9 curriculum program replace “Centralization” with “School-based Curriculum Development”, and respect teachers’ expertise, give them more flexible independent space, and make this curriculum conform students’ needs. However, in current curriculum reform, other fields emphasize on “Integrated Curriculum,” that is, to integrate each subject or area horizontal structure, not vertical “Grade1-9 curriculum.” In new curriculum guidelines experienced schools, teachers often regard integrated curriculum as the contact teaching of correlated curriculum, or just combine teaching content into fusion curriculum and broad-field curriculum, so it will become a formality and neglect the substance. However, as far as current enforcement situation is concerned, the curriculum which tends to the integrated curriculum is harder to make reform, and the coordination of supplementary measure and education values is not easier. [1,2,3]

Fig 1. Jacobs Curriculum plan spectral analysis data resource: Jacobs, 1998; quoted from the new thoughts in Grade1-9 curriculum (page13). [1,4,5,6]

3 Difficulties of the enforcement

Facing questions and criticism from outward fields, the enforcement of Grade1-9 curriculum suffers lots of difficulties and problems. [7]

3.1 Integrated common sense should be established.

Although many scholars in America agree to regard students’ life experience as the core and adopte subject-united design method, they offer so many claims that they can’t get the conclusion. Therefore, the problem of Grade1-9 curriculum integration has different thoughts. It’s worth to be emphasized by educational authority.

3.2 Edition and censorship of textbooks should be emphasized.

About textbook, some of its responsibilities should be accepted by public publishing houses. Trying to think about seven learning areas, nine-year teaching materials, teachers’ textbooks, teaching aids and so on, we need hundreds of people who understand the idea of this new curriculum to edit. Moreover, to examine textbooks is a hard job. Teachers don’t have enough time to select and familiarize teaching materials. Thus, it causes disunion semesters and can’t connect smoothly. The problem of textbooks can’t be ignored.

3.3 Training teachers system should be discussed.

Besides, training teachers system is also concerned and worried by each field. Because every curriculum reform should need enough qualified teachers, it can likely succeed.

3.4 Teachers’ resistible attitude is worth to notice.

Generally, “used to recent situation, resist reform” can be the mental inclination of most people. As far as elementary school teachers are concerned, they are lonely fighting for a long time, so sometimes it will become an independent kingdom. Over a long period of time, it will form so-called isolated “teaching culture.” In other words, how to decrease basic level teachers who resist this curriculum reform and then we can get their support and agreement. Educational authority should pay more attention to it.

3.5 Teachers’ knowledge management should be advanced.

Students' learning not only gets lesson knowledge, but also educates life abilities. Thus, teachers apply the idea of knowledge management to expertise, skill learning, share, application, innovation, and establish the partner relationship with community and students' parents. By cooperation, they give teachers latest expertise, skills, and shortcut to master social trend to promote teaching quality.

4 The structure of knowledge management

Many scholars examine in different points of view on the structure of knowledge management, so there are different statements. As a whole, knowledge management will eliminate old knowledge and be replaced by new one. New knowledge should be collected, shared, applied, and innovated. Hence, the structure of knowledge management can divide into four dimensions, including knowledge obtainment, share, application, and innovation. [8,9,10] As follows:

4.1 knowledge obtainment

Knowledge obtainment is the core of knowledge management. Thanks to information technology development, the rate of renewing knowledge is extremely rapid. If a person or an organization never builds an obtaining knowledge mechanism from outside, they will be exceeded by competitors rapidly. To obtain knowledge can increase the attached values of personal property. Nevertheless, if not obtaining knowledge continually, people will solve problems in a single thinking model.

4.2 knowledge share

Knowledge share is a community. Knowledge is not like commodity which can be transmitted freely. When we learn knowledge from others, it's time to share others knowledge.

4.3 knowledge application

To organize intellectual property accumulation is not only in knowledge obtainment, share, and innovation, it's better in application to build business center abilities to get the most benefit. Hence, knowledge application is to use former accumulated knowledge to solve present and future problems. [11,12,13]

4.4 knowledge innovation

In conclusion, the idea of enforcing knowledge management is through knowledge obtainment,

share, application, and innovation to command members' knowledge, increase organization's wisdom, and establish advantaged competition. The procedure (as picture 2) is a double return circle which will be different due to organization, personal knowledge development.

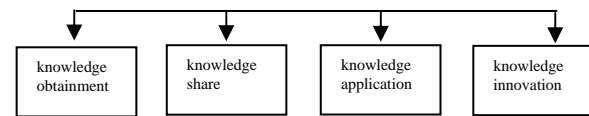


Fig 2. Flowchart of knowledge management

Consequently, knowledge is the information that passes through process. It is also the key element to show personal and organized special values. If we don't manage knowledge systematically, along with the knowledge accumulation, it will gradually become fragments and hasten fuzzily, and be forgotten at the end

5 Reason of the research

According to above research motives, the purposes of the research are as following:

A. To discuss the opinions of elementary school teachers about the present implementation and results in Grade1-9 curriculum.

B. To discuss the opinions of elementary school teachers about the enforcement problems in Grade1-9 curriculum.

C. In view of the findings, from the content structure of knowledge management, we provide improvement and suggestions to promote effects of implementation in Grade1-9 curriculum.

6 Means of the research

This research adopts the documentary analysis, questionnaire, and interviewing method.

6.1 research object

6.1.1 Questionnaire

This research takes Kaohsiung public elementary school teachers to be the population, including administrators(contains director, section chief), class teachers, subject teachers. We totally send out 770 questionnaires, and recycle 638 questionnaires. The return-ratio reaches 83%. Removing 7 invalid questionnaires, we get effective 631 questionnaires. The effective return-ratio reaches 82%. It conforms to Krejcie & Morgan (1,970) sampling line. (quoted from Huang, Hsiao-Lin, 1998).

6.1.2 Interviewing method

This research takes Kaohsiung public elementary school teachers to be the population, including administrators(contains director, section chief), class teachers, subject teachers. The total 15 teachers accept interviewing.

6.2 Research implement

After this research firstly makes the documentary analysis discussion, we carry on the draft of research structure and refer to “questionnaires in Grade1-9 curriculum for elementary school teachers” to edit our questionnaires.

7 Data analysis and discussion

7.1 Questionnaires results for elementary school teachers about the attitude of Grade1-9 curriculum reform.

Table 2 Chisquare test of “enforcement of Grade1-9 curriculum causes student studies degree reduced”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
Whole		178	28.2	304	48.2	116	18.4	33	5.2	631	
Gender	male	42	25.1	90	53.9	29	17.4	6	3.6	167	3.585
	female	136	29.3	214	46.1	87	18.8	27	5.8	464	
age	below 30	58	33.7	83	48.3	27	15.7	4	2.3	172	20.312*
	31~40	58	21.6	143	53.2	51	19.0	17	6.3	269	
	41~50	47	30.9	60	39.5	34	22.4	11	7.2	152	
	above 51	15	39.5	18	47.4	4	10.5	1	2.6	38	
	below 10	77	27.3	150	53.2	45	16.0	10	3.5	282	
Service year	11~20	50	24.9	93	46.3	40	19.9	18	9.0	201	18.886*
	21~30	42	33.3	50	39.7	29	23.0	5	4.0	126	
	above 31	9	40.9	11	50.0	2	9.1	0	0.0	22	

*p<.05 **p<.01 ***p<.001

Pop = population

Among service above 31 years class teachers, school classes above 25 classes, and school history above 11 years teachers, their agreement percentage is higher than other background conditions teachers.

Table 3 Chisquare test of “enforce teachers classification system to promote teachers professional growth”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
whole		133	21.1	342	54.2	132	20.9	24	3.8	631	
school classes	under 24	26	22.2	70	59.8	19	16.2	2	1.7	117	15.230*
	25~59	56	17.1	173	52.9	81	24.8	17	5.2	327	
	above 60	51	27.3	99	52.9	32	17.1	5	2.7	187	

*p<.05

For each level, most teachers have positive attitude of Grade1-9 curriculum reform. However, because of subjects with different backgrounds, they have different thoughts in each question. Except for

variables of age and school history backgrounds, they don't have significant difference in most questions. For other variables of duty-serving and school class backgrounds, they have significant difference in some parts of questions.

7.2 Results of elementary school teachers for the state enforcement in Grade1-9 curriculum.

Table 4 Chisquare test of “curriculum development committee and learning area curriculum group can display their function”

background	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
Whole		284	45.0	243	38.5	94	14.9	10	1.6	631	
Gender	male	81	48.5	56	33.5	27	16.2	3	1.8	167	2.388
	female	203	43.8	187	40.3	67	14.4	7	1.5	464	
Service year	below 10	102	36.2	120	42.6	54	19.1	6	2.1	282	23.070*
	11~20	104	51.7	75	37.3	20	10.0	2	1.0	201	
	21~30	67	53.2	39	31.0	19	15.1	1	0.8	126	
	above 31	11	50.0	9	40.9	1	4.5	1	4.5	22	
duty-serving	administrator	59	44.0	44	32.8	27	20.1	4	3.0	134	12.835*
	class teachers	195	47.0	163	39.3	54	13.0	3	0.7	415	
school classes	subject teachers	30	36.6	36	43.9	13	15.9	3	3.7	82	14.355*
	under 24	36	30.8	55	47.0	22	18.8	4	3.4	117	
	25~59	162	49.5	116	35.5	45	13.8	4	1.2	327	
school history	above 60	86	46.0	72	38.5	27	14.4	2	1.1	187	55.495**
	0~5	4	9.8	18	43.9	14	34.1	5	12.2	41	
	6~10	3	33.3	4	44.4	2	22.2	0	0.0	9	
	above 11	277	47.7	221	38.0	78	13.4	5	0.9	581	

*p<.05

Teachers in small schools under 24 classes, their agreement percentage is higher than other background conditions teachers.

Table 5 Chisquare test of “school can flexibly adjust semester week numbers, minutes of each class, and combination with grades and classes due to curriculum demand”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
whole		105	16.6	243	38.5	188	29.8	95	15.1	631	
gender	male	35	21.0	69	41.3	36	21.6	27	16.2	167	8.368*
	female	70	15.1	174	37.5	152	32.8	68	14.7	464	
duty-serving	administrator	25	18.7	62	46.3	31	23.1	16	11.9	134	14.362*
	class teachers	64	15.4	147	35.4	130	31.3	74	17.8	415	
	subject teachers	16	19.5	35	41.5	27	32.9	5	6.1	82	

*p<.05

In age variable, teachers under 30 years old and above 51 years old, their agreement percentage is higher than other background conditions teachers. In servicing year variable, the servicing year, teachers above 31 years, their agreement percentage is higher than other background conditions teachers.

Table 6 Chisquare test of “school firmly melt six purposes, including gender, environment, information technology, home economics, human right, career

development into each learning area of Grade1-9 curriculum”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
Whole		185	29.3	336	53.2	105	16.6	5	0.8	631	
age	below 30	50	29.1	81	47.1	41	23.8	0	0.0	172	
	31-40	63	23.4	164	61.0	38	14.1	4	1.5	269	28.208**
	41-50	61	40.1	70	46.1	21	13.8	0	0.0	152	*
	above 51	11	28.9	21	55.3	5	13.2	1	2.6	38	
school classes	under 24	28	23.9	71	60.7	17	14.5	1	0.9	117	
	25-59	86	26.3	173	52.9	65	19.9	3	0.9	327	13.461*
	above 60	71	38.0	92	49.2	23	12.3	1	0.5	187	

*p<.05 ***p<.001

In age variable, the opinion difference reaches .001 significance level, and 41-50 year-old teachers, their agreement percentage is higher than other background conditions teachers. In school class variable, the opinion difference reaches .001 significance level, and above 60 classes teachers, their agreement percentage is higher than other background conditions teachers.

Table 7 Chisquare test of “school curriculum formulation and teaching activity, and emphasize team cooperation and team teaching”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
whole		260	41.2	308	48.8	56	8.9	7	1.1	631	
age	below 30	71	41.3	83	48.3	18	10.5	0	0.0	172	
	31-40	96	35.7	148	55.0	19	7.1	6	2.2	269	19.309*
	41-50	73	48.0	64	42.1	15	9.9	0	0.0	152	
	above 51	20	52.6	13	34.2	4	10.5	1	2.6	38	
Duty-servin g	administrator	51	38.1	63	47.0	17	12.7	3	2.2	134	
	class teachers	176	42.4	203	48.9	35	8.4	1	0.2	415	13.599*
	subject teachers	33	40.2	42	51.2	4	4.9	3	3.7	82	
school classes	under 24	44	37.6	62	53.0	10	8.5	1	0.9	117	
	25-59	125	38.2	175	53.5	25	7.6	2	0.6	327	14.329*
	above 60	91	48.7	71	38.0	21	11.2	4	2.1	187	

*p<.05

From table 7, most parts (82.1 %) of elementary school teachers think that the establishment of school curriculum and teaching activity strengthens team work and team teaching. In the opinion difference of background variable, only school class variable reaches significance level, and other variables have no significance level. In school class variable, the opinion difference reaches .05 significance level, teachers in small schools under 24 classes, their agreement percentage is higher than middle and large schools teachers.

Table 8 Chisquare test of “school teachers firmly adopt multiple methods to evaluate student achievement”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
Whole		166	26.3	352	55.8	106	16.8	7	1.1	631	
school classes	under 24	19	16.2	80	68.4	18	15.4	0	0.0	117	
	25-59	90	27.5	181	55.4	50	15.3	6	1.8	327	16.336*
	above 60	57	30.5	91	48.7	38	20.3	1	0.5	187	

*p<.05

In school class variable, the opinion difference reaches .05 significance level, teachers in small schools under 24 classes, their extremely agreement percentage is higher than middle and large schools teachers.

Table 9 Chisquare test of “schools firmly can put staff members, students parents, community public, and experts into curriculum development committee”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
whole		216	34.2	358	56.7	54	8.6	3	0.5	631	
school classes	under 24	35	29.9	72	61.5	10	8.5	0	0.0	117	
	25-59	99	30.3	202	61.8	24	7.3	2	0.6	327	15.990*
	above 60	82	43.9	84	44.9	20	10.7	1	0.5	187	

*p<.05

Teachers in large schools above 60 classes, their agreement percentage is higher than other background conditions teachers.

Table 10 Chisquare test of “school teachers fully unfold curriculum development cooperation and edit overall curriculum”

Back-ground	group	extremely agree		partly agree		partly disagree		extremely disagree		total	X ²
		pop	%	pop	%	pop	%	pop	%		
whole		155	24.6	311	49.3	149	23.6	16	2.5	631	
school classes	under 24	21	17.9	69	59.0	26	22.2	1	0.9	117	
	25-59	74	22.6	150	45.9	92	28.1	11	3.4	327	19.042**
	above 60	60	32.1	92	49.2	31	16.6	4	2.1	187	

*p<.05

In age variable, 31-40 year-old teachers and 41-50 year-old teachers, their agreement percentage are higher than other background conditions teachers. In duty-servin g variable, class teachers who hold extremely agreement get the highest percentage, but administrator teachers who hold extremely agreement get the lower percentage. In school class variable, teachers in large schools above 60 classes, their extremely agreement percentage is higher than other background conditions teachers. In conclusion, most teachers have affirmative opinions of state enforcement in Grade1-9 curriculum. However, subjects have different backgrounds, so they have different opinions in each state enforcement. Except for the highest education and school history variables, they have no significant differences in all questions. In age, duty-servin g, and school class variables, they have significant differences in some parts.

8. Summary of interviewing

We interview elementary school teachers on the spot about the enforcement of Grade1-9 curriculum to redeem questionnaire which leads them in another explanations due to the content of questions limits.

A. Problems and state enforcement of Grade1-9 curriculum

From interviewing, we understand most teachers (including directors) think the main idea of Grade1-9 curriculum is to develop students basic competencies which focus on inculturatio, internationalization, lively and vivid content, and diversification. It's the positive fact, but they suffer following difficulties and obstruction in enforcement.

1. Grade1-9 curriculum can't guide adequately, so teachers, students parents, and all society don't have common sense. (Teacher A 911224)
2. It's a good idea for each purpose infusing into curriculum, but too many purposes will cause curriculum failure to explore deeply. (Teacher B 920102)
3. Teaching hours of some curriculum decline sharply, so teachers can't be firm in curriculum. (Teacher D920103)
4. We lack of area expertise teachers on teaching. (Teacher C 920102)
5. There is a different thought between policy of educational authority and locale teachers.
6. It's too slow in examinng textbooks. (Teacher H 920302) (Teacher K 9250320)
7. Educational authority emphasize on surface and instant effects, neglecting the help for teachers. (Teacher A 911224) (Teacher G 920225)

B. Opinions of Grade1-9 curriculum related advanced courses activity

Teachers are in the first line in enforcement of Grade1-9 curriculum, so they have the most impotent responsibility. Teachers not only comprehend their own curriculum, but also control the connection with each subjects. Hence, by related

advanced courses, it's quite important to advance teachers professional capability and promote teachers professional development. From interviewing, we generalize to know that teachers have following opinions and suggestions:

1. We don't have enough advanced courses activity hours, so it's hard to advance teachers professional capability. (Teacher A 教師 911224) (Teacher M 920329)
2. Most teachers think advanced courses activity is fragmentary, lacks of feedback and share communicative system. It'll influence the effects of advanced courses. (Teacher D920103) (Teacher J 920315)
3. During the period of advanced courses, teachers have to handle classes by themselves, so they have less willingness to join. (Teacher H 920302)

C. Opinions of School-based Curriculum Development and Curriculum Integration

Most teachers think School-based Curriculum Development and Curriculum Integration need a team work of teaching and administrative staff. Integrated curriculum can develop students completed learning. But some teachers think it has to cooperate with a sound curriculum evaluation, and then we can examine this curriculum whether its practicability and effectiveness or not. Not to intergrate because we want to do so. (Teacher A 911224) (Teacher D 920103) (Teacher I 920310) (Teacher L 920322)

D. Opinions of Grade1-9 curriculum with cooperating measures

When Grade1-9 curriculum implements until now, it causes lots of problems. It needs national, local, and related institutions to offer assistant cooperating measures. In interviewing, sample teachers have four opinions and suggestions about scarce cooperating measures after enforcing Grade1-9 curriculum.

1. Offer enough time to design curriculum development and get ready to teach. (Teacher C 920102) (Teacher E 920118)

2. Form consultation units to offer consultation service when teachers meet problems and difficulties. (Teacher A 911224)

3. Promote the coordinating function between administration and teaching, and lighten teachers' administrative position. (Teacher E 920212)

4. Edition of "Competence Indicators" can be divided by grades, not by sections. It'll be convenient to teach. (Teacher K 920320)

E. Opinions of Grade1-9 curriculum plan

From interviewing, we know teachers think curriculum plan is their responsibility. Because teachers are the executors and *stimuli* in teaching field, they understand students' needs very clearly. Planning curriculum by themselves can benefit evaluation of learning effects and examination of teaching goals. But some teachers think both of us have this responsibility. Administration has to support teaching, and offer necessary help and service to advance teaching quality, and to build a high quality environment. (Teacher A 911224) (Teacher C 920102) (Teacher E 920118) (Teacher K 920320)

9 Conclusions

9.1 Most elementary school teachers understand the idea spirit of Grade1-9 curriculum.

From this research, we find that teachers understand reform idea, core competence, and learning areas to reach over ninety percentage. It demonstrates that most elementary school teachers understand the idea spirit of Grade1-9 curriculum and they have the high uniformity. To femininity whose age below 30 years old, and being administrators elementary school teachers, they have higher understanding about the idea spirit of Grade1-9 curriculum than other background conditions teachers.

9.2 Most elementary school teachers understand the curriculum guidelines of Grade1-9 curriculum.

From this research, we find that elementary school teachers understand the idea spirit and meaning of the organization functions of "curriculum development committee" and "learning area group" in Grade1-9 curriculum, school-based curriculum, and they integrate curriculum. Their percentage reaches above

85%. It means that most elementary school teachers have already understood the curriculum guidelines of Grade1-9 curriculum, and they have high uniformity. The teachers whose age below 30 year-old have higher understanding about the curriculum guidelines of Grade1-9 curriculum than other background conditions teachers.

9.3 Most elementary school teachers understand the curriculum reform of Grade1-9 curriculum.

From this research, we find that elementary school teachers understand the curriculum reform of Grade1-9 curriculum, and its percentage reaches above 80%. It means that most elementary school teachers understand the curriculum reform of Grade1-9 curriculum and they have high uniformity. To femininity who own graduate school educational background, and being large school above 60 classes elementary school teachers, they have higher understanding about the curriculum reform of Grade1-9 curriculum than other background conditions teachers.

9.4 Except engaging in the teaching preparatory time, most elementary school teachers agree the cooperating measures of Grade1-9 curriculum.

From this research, we find that most elementary school teachers agree the cooperating measures of Grade1-9 curriculum. Except at present related advanced courses activities can let them be equal to curriculum reform, only a half of teachers hold positive thoughts. Besides, we have enough time to engage in the preparatory teaching after enforcing Grade1-9 curriculum. It means that most elementary school teachers understand the cooperating measures of Grade1-9 curriculum and they have high uniformity. Because of different backgrounds, they have different opinions. Female teachers think that the percentage of present related advanced courses activity which can let them be equal to curriculum reform is higher than male teachers. Younger teachers worried about the scarce time of preparing lessons are more than elder teachers. Teachers who own graduate school educational background agree that when enforcing curriculum evaluation, it can evaluate teachers' teaching at the same time.

9.5 Except the question of dialects edited into official curriculum, most elementary school teachers agree the curriculum reform of Grade1-9 curriculum.

From this research, we find that elementary school teachers have the reform attitude of Grade1-9

curriculum. Except the questions of representable curriculum development committee, enforcing integrated curriculum causes students' burden in schoolwork, but most teachers hold positive thoughts. Only in the question of editing dialects into official curriculum, there are about half of teachers who are disagree. It means that most elementary school teachers agree the curriculum reform of Grade1-9 curriculum and they have high uniformity.

9. 6 Most elementary school teachers agree the state enforcement of Grade1-9 curriculum.

From this research, we find that elementary school teachers agree the state enforcement of Grade1-9 curriculum, they cultivate students ten core competences, and develop the functions of "curriculum development committee" and "each learning area group". According to the needs of curriculum, we can flexibly adjust weeks of each semester, minutes of each class, and combination of classes and grades. In the questions of representable curriculum development committee, they hold more positive thoughts. It means that most elementary school teachers agree the state enforcement of Grade1-9 curriculum and they have high uniformity.

10. Suggestions:

A. For teacher-training institutions

1. Adjust the knowledge management education curriculum to implement the combination of area courses and integrated curriculum. Students does not have departmentalism to cultivate the needy teachers in Grade1-9 curriculum all areas.

2. In accordance to Grade1-9 curriculum comprehensive implementation, each normal university should cultivate the elementary school and junior high school common teachers to deeply understand the meaning of Grade1-9 curriculum to achieve elementary school and junior high school teachers who can adjust commonly.

3. Educational authority holds theoretical and practical advanced courses activity to reconstruct teachers specialty and self-confidence to promote the results of curriculum reform.

B. For educational authority

1. By guidance, share Grade1-9 curriculum related knowledge and meaning with communities and students parents.

According to this research, it indicates that

elementary school teachers think in this Grade1-9 curriculum reform, the guidance for students parents is not enough, so educational authority should add the guidance more.

2. Form the standing curriculum reforms committee, carrying on curriculum reform continually.

Educational authority should form the standing curriculum development committee to share Grade1-9 curriculum knowledge with teachers, experts, and folk academic groups.

3. Apply Grade1-9 curriculum related knowledge to reform high schools and vocational schools together to achieve the curriculum linking function.

This research results show that most elementary school teachers think after Grade1-9 curriculum entire enforcement, our high schools and vocational schools curriculum should be reformed at the same time to achieve the curriculum linking function. Therefore, educational authority can consider to lengthen nine-year compulsory education into twelve-year compulsory education, so it can solve the linking problem, and avoid the pressure of elevating to enter a higher school education. However, the meaning and spirit of Grade1-9 curriculum can be achieved earlier.

4. Remodel correlated laws to cause Grade1-9 curriculum impetus with an ideal environment.

a. This research results show that most elementary school teachers think they don't have much time to prepare teaching and evaluation, so educational authority should rapidly improve every week teaching hours, and considers to pull closer the personnel framing standard of teachers and administrative staff in junior high schools and elementary school and strengthens the speed of textbook verification to give elementary school teachers more time to prepare teaching work.

b. About examination and selection of textbooks, educational authority should plan the well-done rules to improve content repetition in different editions and make each subject content link and intergrate when schools selecting.

5. Hold the curriculum plan practical advanced courses activity and enforce appropriate teaching evaluation to promote the innovation and the growth teachers

specialized knowledge.

- a. The educational administrative institution should first investigate the demand of the teacher curriculum, and hold practical and continuous advanced courses activity. Except causing teachers to obtain the latest Grade1-9 curriculum information, they can observe and encourage with each other to advance specialized knowledge in Grade1-9 curriculum.
- b. Establish the appropriate teaching evaluation, through this evaluation, we can correct the flaws in teaching and enhance high teaching quality.
- c. Dialects infusing into the formal curriculum should be studied deeply.

According to this research, it indicates that elementary school teachers hold hesitant attitude about dialects infusing into the formal curriculum. Except dialects phonetics not yet unified, students' city and countryside disparity is also the important attribute ,so educational authority should discuss carefully and thoroughly. After that, if they think it's necessary indeed, they should adopt suitable implementation, strengthened the guidance, let teachers, students parents, and students accept to lift efficiency.

6. Plan applied knowledge management related reward feedback measure

For elementary school teachers, carrying on the knowledge share is passive. If educational authority or school administration authority don't provided the moderate inducement for knowledge share, and innovation behavior, teachers will tend to lowly on the knowledge share and the innovation motive. Furthermore, the knowledge has "sharing", in the sharing process, the connotation will be enriched by the circulation of unceasing feedback.

C. For administrators of elementary school

1. Encourage teachers refreshing course of occupation and provide multiple ways.

Schools should encourage teachers to join practical advance courses, and use this time to hold the teaching demonstration this kind of advance courses. They can share what they learn with each other, and enable teachers to absorb the recent information and the skills, in order to provide more assistance for Grade1-9 curriculum implementation.

2. Establish school teaching resources network to promote elementary school teachers using

computers to benefit knowledge share.

Schools should not only encourage teachers to cooperate the curriculum development and the teaching activities, research each kind of teaching resources, assist to establish the teaching resources network, establish the database, and carry on the knowledge management, but also school teachers can discuss commonly to share resources in order to reduce the time to find out. Teachers who don't understand Grade1-9 curriculum deeply, they can enrich their own knowledge by this channel.

3. Plan teaching group system, fulfill knowledge management structure

Different teachers have different specialized backgrounds, different students have different potential display space. How school administrators plan appropriately depends on teaching groups in accordance with each school year curriculum goals. To form the highest quality team which takes advantage to complement deficiency is the most important consideration factor in the administrative plan.

4. Promote administration an appropriately assistant environment

Whether Grade1-9 curriculum enforcement succeed or not, teachers are the key point. Consequently, administrators have to plan an appropriate assistance. For instance, to redesign teaching hours and space, to expand teaching resources and equipment, to improve learning environment, and so on, these can make teachers heartily display on their post, by their best potential to assist schoolchild obtaining the best learning benefit.

5. Plan teaching preparatory work time and space

According to this research, it indicates that although most teachers agree Grade1-9 curriculum with cooperating measures. However, for teaching preparatory work time, most teachers think it's not enough and it'll obstruct the impetus of Grade1-9 curriculum. Hence, school administrations may adopt following measures:

- a. Plan teachers a teaching preparatory room to discuss related curriculum or teaching skills.
- b. Decide textbook editions earlier to let teachers understand teaching materials and help students achieve competence indicators of each learning area and some competence indicators of six purposes

c. Plans school years and each area teachers' common spatial time to cooperate with each other, participate in discussion. It'll benefit the team teaching.

D. For elementary school teachers

1. Fulfill Grade1-9 curriculum knowledge

This research shows that parts of teachers don't understand Grade1-9 curriculum knowledge insufficiently, so in order to develop Grade1-9 curriculum plan to the best, teachers participate in each kind of advanced courses and absorb new knowledge to strengthen the related knowledge through each kind of growth channels.

2. Strengthen team teaching skills; share what we learn with each other

This research shows that teachers already understand Grade1-9 curriculum with cooperating measures. Thus, how to strengthen team teaching skills to display individual specialty, and develop schoolchild multiple potentials is the goal for teachers to strive.

3. Promote teachers specialized development, strengthen the research and innovation of curriculum

The goal of Grade1-9 curriculum implementation is to expect teachers to have educational specialty and curriculum accomplishments. Through each kind of channels, teachers strengthen their own education specialized knowledge and strengthen abilities of curriculum plan and research development. To make teachers truly possess the specialized education should be all teachers' goal.

4. Implement preparatory teaching work, apply related knowledge of Grade1-9 curriculum

a. Advance our own expertise and participate in discussion eagerly.

b. Be familiar with the content of Grade1-9 curriculum, strengthen implementation potency.

c. Implement preparatory teaching work and discussion, promote teaching effectiveness.

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