

## Knowledge Management of the Grade1-9 Curriculum implements in the primary School

WEN-JIUH CHIANG, RONG-JYUE FANG, ZHEN-GANG CHEN, HUA- LIN TSAI

**Abstract**—The purpose of this research is to realize the viewpoints of the related questions of the grade1-9 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.

### I. INTRODUCTION

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

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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.

### II. ITERATURE REVIEW

The former curriculum standard focus on subjects primarily by separated fields teaching. There are some limits between subjects. We only stress on knowledge instilling for entering to a higher school and recite like machines. We ignore the integration of student's body and mind development and 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.

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” to respect teachers' expertise and 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.

This curriculum reform and then we can get their support and agreement. Educational authority should pay more attention to it.

Many scholars examine in different point of view on the structure of knowledge management, so there are different statements. As a whole, knowledge management will eliminate old knowledge and replace 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.[1,2,4,5]

As follows:

A. *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.

B. *knowledge share*

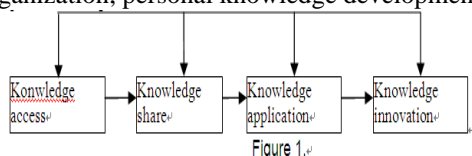
Knowledge share is a community. Knowledge is not like commodity which can be transmitted freely. When we learn knowledge from others, it's time to share others knowledge.

C. *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. [3,6,7,9]

D. *knowledge innovation*

The core of knowledge economy is to innovate and share knowledge. The origin is innovation. Only to innovate products rapidly and get a manageable organization that can integrate and equip inside and outside resource. It will succeed in this global competitive environment[8,10]. If the organization sticks to established practice and doesn't want to improve, it will get to fail assuredly. In conclusion, the idea of enforcing knowledge management is through knowledge obtainment, share, application, and innovation to command members' knowledge, to increase organization wisdom, and to establish advantaged competition. The procedure (as picture 2) is a double returns circle, the circle will be different due to organization, personal knowledge development.



Picture 2 Flowchart of knowledge management

Consequently, knowledge is the information that passes through processing. Also, it is 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 hastens fuzzily, and be forgotten at the end.

III. CONTENT AND FEATURES OF GRADE 1-9 CURRICULUM

The main features of Grade1-9 curriculum:

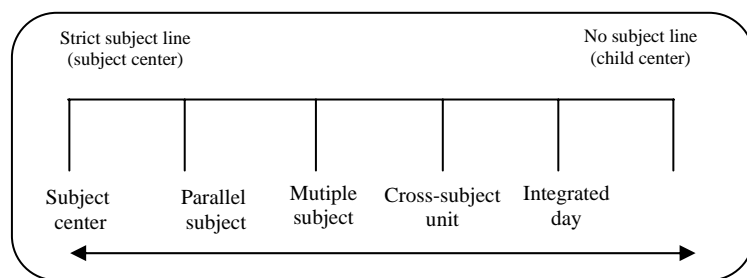
1. **“Ability standard” substitutes traditional “discipline standard” the curriculum plan design**

The former curriculum standard focus on subjects primarily

by separated fields teaching. There are some limits between subjects. We only stress on knowledge instilling for entering to a higher school and recite like machines. We ignore the integration of student's body and mind development and 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. **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” to respect teachers' expertise and 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. H. Jacobs[5]presented “curriculum plan spectral analysis”(as picture 1) and took the subject center and the child center as the both sides to relatively orientate each kind of curriculum plan for separated and integrated attributes. However, as far as current enforcement situation is concerned, the curriculum which tends to the integrated curriculum is harder to make reforms, and the coordination of supplementary measure and education values is not easier. [14]



Picture 1 Jacobs Curriculum plan spectral analysis data resource : Jacobs, 1998[14]

IV. DIFFICULTIES OF THE ENFORCEMENT

Facing questions and criticism from outward fields, the enforcement of Grade1-9 curriculum suffer lots of difficulties and problems[15].

*A. Integrated common sense should be established.*

Although many scholars in America agree to regard students' life experience as the core and adopting 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.

*B. Edition and censorship of textbooks should be emphasized.*

About textbook this part, some responsibilities of it should be accepted by public publishing houses. Try 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, so it leads to disunion between semesters and can't connect smoothly. Thus, the problem of textbooks can't be ignored.

*C. 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.

*D. 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. That is, most teachers devote to their own class or subject. They talk less or communicate with other teachers in curriculum or teaching. 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.

*E. 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 to 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.

## V. INTENTION OF THE RESEARCH

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

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.

*A. Study realize*

After this research first 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.

*B. Review 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.

*C. 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 )

*D. 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 impotant 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 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 )

### E. *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)

### F. *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)

### G. *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)

### H. *Other opinions*

1. Educational authority and expertise can mostly listen to opinions from basic level teachers. (Teacher D 920103) (Teacher M 920329)
2. Students parents should cooperate with teachers closely. In students parents' participation, they can't be absent in the process of students learning because it's time for cooperation between teachers and students parents. They are not only the good helpers, copartners in education, but also learning and growing up with teachers and children. Cooperation between teachers and students parents can establish the future education. Hence, in Grade1-9 curriculum enforcement, students parents play a very important role. We not only strengthen Grade1-9 curriculum preliminary preliminary cognition, and also

need their help and coordination in many curriculum plans. Nowadays, teachers and students parents have more interaction than before. For example, there is a meeting with students parents. They also support morning activities, like reading Confucian classics or teaching techniques. It's various and colorful. Besides, they also support and help outdoors teaching and art performance. Therefore, students parents are teachers best partners. In this cross-century educational reform challenge, they can hand in hand overcome difficulties together and found the radiant future for the children. (Teacher C 920102)

3. The conformity between vertical and horizontal teaching materials must overcome: In links new and old curriculum, because various textbook editions have different Competence Indicators or Benchmark, it's hard to link with different editions and they have too many repeats which lead students feel boring easily with learning. From interviewing, we find that interviewed teachers think when selecting textbooks, they have troubles because different subject editions or various grades use different editions that can't link and intergrate. Although the problem of curriculum conection, it likely happens to old and new stages connection, not only to Grade1-9 curriculum, when the transformation of school report cards in old and new curriculum is not defined precisely, it's the toughest challenge in connections with teaching and evaluation. (Teacher A 911224) (Teacher J 920315) (Teacher F 920212)

## VI. CONCLUSIONS

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 integrated curriculum. Their percentage reaches above 85%. It means that most elementary school teachers already understand the curriculum guidelines of Grade1-9 curriculum and they have high uniformity. The age below 30 year- old teachers, they have higher understanding about the curriculum guidelines of Grade1-9 curriculum than other background conditions teachers. 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. By feminine, graduate school educational background, and 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.

### Suggestions:

- A. *For teacher-training institutions*
  - 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.

- 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.

#### 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.

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