



# The Integration of Modern Technology and Elementary School Teaching Management in the Context of “Double Reduction”

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**Abstract.** With the promotion of double reduction policy, elementary school teaching management is facing new challenges and opportunities. This paper discusses the thinking of elementary school teaching management under the background of double reduction with the support of modern technology. Firstly, the background and significance of the double reduction policy, as well as the current situation and problems of elementary school teaching management are analyzed. Secondly, the ideas of improving teaching management strategies in elementary school are discussed. Finally, the improvement paths for the daily management of elementary school teaching in the context of double reduction are proposed, including focusing on the application of modern technology, strengthening teacher training and playing the role of parents. A questionnaire and scale were also used to verify the effectiveness of the path in actual teaching management. This study aims to provide new ideas and methods for elementary school teaching management and promote the development of education modernization.

**Keywords:** “Double reduction” · Primary School · Teaching · Management

## 1 Introduction

The “Double reduction” work is a major deployment made by the Party Central Committee and the State Council, and is also a major reform in the field of education, the essence of which is to return education to rationality, to its origins and to pure education. The key to “double reduction” is to improve the quality and efficiency of teaching, schools need to grasp the daily management of teaching, “double reduction” work will continue to push forward, so that education returns to its essence, school work on a new level.

## 2 Analysis of Current Problems in Primary School Management

### 2.1 Higher Weighting of Test Scores

School administrators focus on test scores and pay attention to what is tested, ranking, assessing, rewarding and punishing teachers with student test scores. This results in teachers teaching whatever is tested and not focusing on the all-round development of

students. Special emphasis is placed on the three examination subjects of language, mathematics and English, and it is customary to carry out extensive, repetitive exercises and engage in a sea of problems with the aim of increasing students' examination scores.

## **2.2 The Concept of Education Is Backward and the Philosophy of Running a School Is Vague**

Students are busy participating in a variety of dazzling formalism activities, school teachers are busy with text, pictures, video data collection, collation, work in a formal way [1]. Some administrators are happy to grasp the visible forms of things, happy to use all means to grasp the publicity work, newspaper publicity, television publicity, WeChat public number publicity.

## **2.3 Continuous Expansion of Class Sizes**

School administrators like to recruit students without limits; the more students the school enrolls, the more funding it secures to run the school, the more say it has, and the more successful it seems to be in running the school. Excessive student numbers lead to constantly expanding class sizes, resulting in record student class sizes. The national architectural design standard for classrooms is to accommodate 30–45 students per class, whereas in reality it is 50–70 students per class, exceeding the design standard by more than 50% [2].

# **3 Ideas for Improving Management Strategies in Primary Schools in the Context of “Double Reduction”**

This study proposes ideas for improving primary school management [3], as shown in Fig. 1. The top-level design is to strengthen team building and reconstruct new ways of learning, to fully explore the needs of teachers' competencies, and to build a collaborative educational structure in the home-school-society environment, so as to promote changes and reconfiguration of the curriculum from a single teaching relationship to a multi-dimensional educational relationship [4]. Through the improvement of the quality of homework design, the reform of the examination format and the extension of school education, we can move from a single knowledge orientation to a multi-dimensional growth orientation. This then lends itself to reflective routinisation of teaching and learning management, creating a virtuous cycle of high-quality collaborative parenting environment.

## **4 Primary School Management Improvement Path in the Context of “Double Reduction”**

### **4.1 Strengthening the Subject Team of Teachers**

Schools should make good use of the academic functions and strong teaching and research atmosphere of grade groups, teaching and research groups and master workshops to carry out collective lesson preparation, polishing of the classroom, after-school

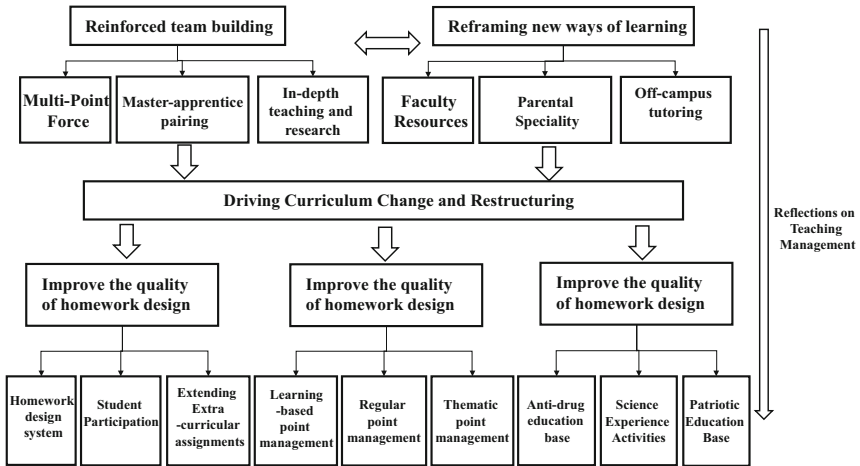


Fig. 1. Ideas for improving management strategies in primary schools

homework design, student tutoring, subject activities and other teaching seminars to achieve integration and optimisation of resources [5].

A system of “pushing the door to listen to lessons” is set up, with weekly, unannounced “pushing the door to listen to lessons” activities. The headmaster, the deputy headmaster in charge of teaching, the head teacher and members of the school’s central teaching and research team go into the classroom and listen to and evaluate the lessons [6]. The school has built a perfect organization system for daily teaching management and research, and the whole school is researching together” to promote the daily teaching work of the school and ensure that teaching and research is standardized, institutionalized, normalized and scientific.

#### 4.2 Building a New Way of Learning and Living on Campus

Under the background of double reduction, the information-based teaching management of elementary school needs to build a new campus learning life style to meet the educational needs and development of the new era. It is mainly constructed from the following aspects:

1. Implementation of a diversified curriculum.

To meet students’ individual learning needs and development, a diversified curriculum has been implemented, using interdisciplinary integration, project-based teaching and experiential teaching to enhance students’ learning interests and participation.

2. Build an open educational environment.

In order to improve students’ learning enthusiasm and initiative, an open educational environment is constructed, and a variety of educational resources and means, such as libraries, laboratories, and multimedia classrooms, are used to meet the different learning needs and development of students.

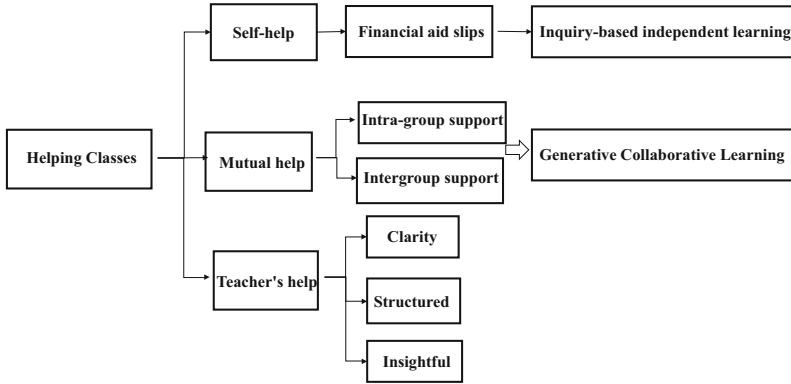


Fig. 2. Driving Curriculum Change and Restructuring

3. Actively carry out extracurricular activities.

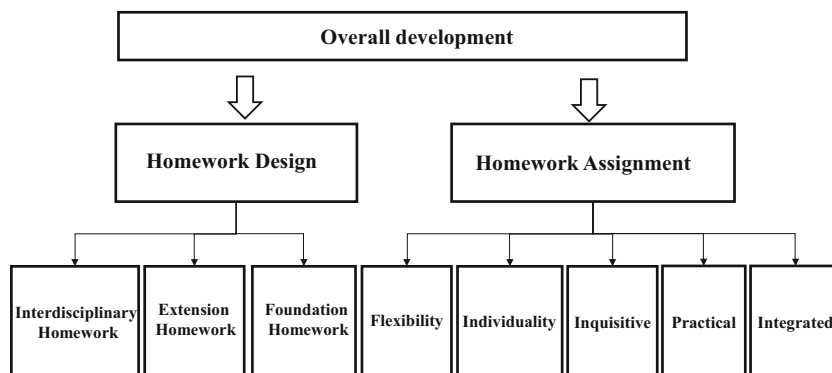
In the management of information-based teaching in elementary schools, extracurricular activities are actively carried out to enrich students’ campus learning lifestyles [7]. A-section subject tutoring + B-section customized extended hours services implemented, select high-quality sports, art and science and technology organizations to enter the school to provide extracurricular services to fully meet the diversified and personalized needs of students [8].

**4.3 Curriculum Reorganization and Classroom Transformation**

In the development and innovation of the curriculum, the school focuses on the integration of disciplines and interdisciplinary integration to improve students’ overall ability and quality. In curriculum design, adopt various teaching methods and means, such as game-based teaching, hands-on teaching, and project-based teaching, in order to improve students’ learning effectiveness and development. In the course design, course contents and tasks of different difficulties and types are set to meet students’ learning needs and development according to their actual situations and ability levels. In teaching evaluation and feedback, emphasis is placed on diversity and personalization, and different evaluation methods and means are used, such as student self-evaluation, peer evaluation, and teacher evaluation, as shown in Fig. 2.

**4.4 Improving the Quality of Homework Design**

The school has established a collective teaching and research system for homework assignments in order to strengthen guidance on homework design. The homework for each subject is led by the head of the subject preparation team of each grade, and teachers within the team conduct collective discussions to select the content of the homework, ensure the scientific and rigorous nature of the homework, and avoid ineffective and arbitrary homework. We have designed different levels of homework such as basic, consolidation, developmental and innovative, and explored various modes of layering



**Fig. 3.** Establishment of a collective teaching and research system for homework

such as “basic + extension”, “basic + flexibility” and “basic + individuality”, as shown in Fig. 3.

#### **4.5 Reform the Single Form of Examination and Enrich the Multidimensional and Comprehensive Assessment of Students**

Comprehensive assessment is an assessment mechanism that should be promoted in order to fully implement the “double reduction”. The school has always combined process evaluation with summative evaluation, so that quantitative and qualitative evaluation are unified. The school has changed from the traditional single assessment based on academic performance to a comprehensive assessment of moral, intellectual, physical, social and aesthetic development, and from a single assessment of subject literacy to a comprehensive assessment of students’ core literacy. For example, the comprehensive quality management assessment method: Learning-based points management; Routine point management; Thematic points management.

#### **4.6 A Survey of Teachers’ Job Satisfaction and Students’ Subjective Well-Being**

##### **4.6.1 The Impact of Integrating Modern Technology and Elementary School Teaching Management on Teachers’ Job Satisfaction**

Based on the analysis and sorting of related literature, this study is based on the Teacher Job Satisfaction Survey Scale developed by B. L. Fung [9]. Also drawing on the Teacher Job Satisfaction Questionnaire compiled by Zhongshan Zhang [10], based on the actual situation, the questionnaire was finally revised, with a total of 32 questions, including two parts of work sub-dimensions and overall satisfaction, which were specifically divided into four dimensions: teaching work, salary and income, promotion system, and interpersonal relationship, 103 questionnaires were collected, and 103 valid questionnaires were returned.

From Table 1, it can be seen that the mean value of teachers in all five dimensions is greater than 4. According to the correlation analysis, the five variables showed a significant positive correlation with each other, and the correlation coefficients between

**Table 1.** Teacher job satisfaction

Variables	Avg	SD	Correlation coefficient				
			1	2	3	4	5
Overall satisfaction	4.382	1.054	1				
Teaching	4.652	0.854	0.821**	1			
Wage income	4.417	1.032	0.791**	0.657**	1		
Promotion System	4.135	1.143	0.528**	0.608**	0.511**	1	
Interpersonal Relationships	4.572	0.932	0.643**	0.591**	0.435**	0.432**	1

the improvement of teaching jobs and the remaining four variables were relatively high, responding to some extent to the strong influence of the integration of modern technology and elementary school management on teachers’ job satisfaction in the context of double reduction.

**4.6.2 Survey on Students’ Satisfaction with the Integration of Modern Technology and Elementary School Management**

The purpose of this study is to objectively describe the impact of the integration of modern technology and elementary school management on student satisfaction in the context of double reduction using an empirical study of student satisfaction. The academic aspects include: Academic Self-concept (AS), Classroom Attention (CA), Attitude Toward Homework (ATH), Learning Interest (LI), and Learning Motivation (LM); the interpersonal aspects include: Student-Faculty Relations (SR) and Peer Relationship (PR); and the school aspects refer to students’ overall satisfaction (OS) with school. Based on Opdenakker and Damme et al.’s questionnaire on the subjective well-being of school students [11], selected some elementary school students in six grades as the subjects of the study, 1098 questionnaires were collected, and 1080 valid questionnaires were returned, and specifically analyzed their subjective well-being status regarding the current school teaching and daily management. In this study, the test of the scale was revised and deleted to include 3 dimensions, 8 indicators and 58 question items.

From Table 2, it can be seen that students’ mean values on all eight dimensions are greater than 4. According to the correlation analysis, a significant positive correlation is shown between the eight variables, which to a certain extent responds to the stronger influence of the integration of modern technology and elementary school management on students’ well-being in the context of double reduction. It indicates that the integration of school teaching and management with modern technology has a good effect, which helps to promote students’ adaptation and development.

**Table 2.** Student Satisfaction

Variables	Avg	SD	Correlation coefficient								
			1	2	3	4	5	6	7	8	
OS	4.264	0.832	1								
AS	4.008	1.063	0.721**	1							
CA	4.196	0.832	0.534**	0.480**	1						
ATH	4.213	0.657	0.671**	0.528**	0.511**	1					
LI	4.745	0.781	0.501**	0.723**	0.628**	0.651**	1				
LM	4.511	0.831	0.435**	0.638**	0.614**	0.570**	0.701**	1			
SR	4.217	0.901	0.485**	0.505**	0.674**	0.801**	0.409**	0.513**	1		
PR	4.103	1.024	0.483**	0.629**	0.480**	0.588**	0.711**	0.596**	0.604**	1	

## 5 Conclusions

This paper discusses the integration of modern plus technology and elementary school teaching management in the context of double reduction, analyzing the background and significance of the double reduction policy, as well as the current situation and problems of elementary school teaching management. Meanwhile, the application of modern technology in the daily management of elementary school teaching is explored. Subsequently, the paths of improving the daily management of elementary school teaching in the context of double reduction are proposed. Finally, the validity of the path in the actual teaching context was verified by means of questionnaires and scales. By thinking about the integration of modern technology and elementary school teaching management, the following conclusions can be drawn:

1. The daily management of elementary school teaching under the background of double reduction faces new challenges and opportunities.
2. Modern technology plays an important role in the daily management of elementary school teaching. The use of information-based teaching resources can improve teaching effectiveness and efficiency, and student information management and teacher information management can help administrators better grasp the situation of students and teachers.
3. Strengthening teacher training is the key to promote the development of daily management of elementary school teaching. Teachers are the main body of teaching daily management, and only by improving the quality and ability of teachers can we promote the development of teaching daily management, so that they can better apply information technology for teaching and management.
4. Play the role of parents is an important way to promote the development of daily management of elementary school teaching. Parents are the first teachers of students, they can help students to learn and live better, and also communicate and cooperate with schools to promote the development of teaching daily management.

To sum up, under the background of double reduction, elementary school teaching management needs to focus on the application of modern technology, strengthen teacher training and play the role of parents, promote the development of elementary school teaching and learning management, only then can we promote the development of elementary school teaching management, improve the quality of education, and adapt to the development of education modernization.

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