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Research on the Current Situation and Future Development Path of Family School Collaborative Education Model under the "Double Reduction" Policy

Xinyi Zhang, Yi Yang

School of Anhui University of Finance and Economics, Bengbu, 233000, China

Abstract

Reducing the burden of students' homework and off campus training (hereinafter referred to as "double reduction") is a major strategic decision made by the Party Central Committee at the historical intersection of the "two centenary goals". In order to study the situation of home school collaboration under the dual reduction policy, we mainly surveyed parents and teachers, using online questionnaire surveys to investigate their understanding and attitudes towards home school collaboration education; Next, this article will further conduct data analysis on the collected questionnaires. Firstly, statistical analysis was conducted on the cognitive status of surveyed parents and teachers regarding the home school collaborative education model. Then, visual suggestions were summarized using word cloud technology for user evaluation data. Based on the above analysis and combined with the development of the times, this article proposes suggestions for the future development direction of the family school collaborative education model for government and other departments.

Keywords

Double Subtraction; Home School Collaboration; Statistical Analysis; Ci Yun.

1. Topic Research

1.1. Research Background

Since the implementation of the "double reduction" policy, the homework burden of primary and secondary school students has been significantly reduced, and the chaos of off campus training has been significantly curbed. According to the Central Propaganda Department's "China's Ten Years" series of themed press conferences, over 90% of primary and secondary school students are able to complete their homework within the specified time frame in terms of controlling the total amount and duration of homework. In terms of governance of subject based off campus training institutions, the proportion of offline institutions being reduced is 95.6%, while the proportion of online institutions being reduced is 87.1%. At the same time, the continuous implementation of the "double reduction" policy also faces many challenges, especially the problems of misalignment, offside, and absence in the collaborative education between families and schools during the compulsory education stage. The guiding ideology of "double reduction" clearly proposes "building a good education ecosystem". The healthy growth and comprehensive development of students are the foundation for building a good education ecosystem, which relies on the systematic coupling between the family field, school field, and social field. In order to further consolidate the achievements of burden reduction and solve the dilemma of collaborative education between family, school, and community, the Ministry of Education will continue to prioritize the "double reduction" work in 2022, proposing to focus on the development and construction of a collaborative education mechanism between family, school, and community, creating a good education ecology for the in-depth implementation of the "double reduction" policy.

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1.2. Research Purpose

1.2.1. Effectively Reducing Students' Academic Burden and Enhancing Their Interest in Learning

We will resolutely reduce off campus training in subject related fields, re review and register existing subject related training institutions, gradually and significantly reduce them, and solve the problem of excessive and excessive use. We will strictly investigate and punish institutions that do not meet qualifications, have chaotic management, take advantage of opportunities to accumulate wealth, engage in false propaganda, and engage in profit-making activities with schools in accordance with the law and regulations. The student side is to reduce students' learning pressure, and in addition to academic achievements, they can also find their shining points in morality, intelligence, physical fitness, aesthetics, and labor elsewhere.

1.2.2. Develop After-school Service Science Projects to Promote the Healthy Development of After-school Services

Developing after-school service science projects is beneficial for breaking the limitations of classroom teaching and meeting the diverse needs of students. Unlike traditional classrooms, after-school services break the limitations of 40 minute classroom teaching. The selection of content from in class to outside class makes the school science education system more complete and further improves the students' scientific literacy. The development of after-school service science projects has filled the gap in this research field, and through research on science projects, it can enrich the after-school service curriculum system. Radiate and drive surrounding schools, providing reference and reference value. Developing scientific after-school service projects that are suitable for students and conducting practical research on them can serve as a demonstration and reference for neighboring elementary schools with the same qualifications, promoting the healthy development of after-school services.

1.3. Research Subjects

1.3.1. Teacher

Teachers are one of the main subjects of home school co education, and their understanding and practice to a certain extent determine the implementation and effectiveness of home school co education.

1.3.2. Parents

Parents are another subject of home school co education, and the importance of parents in home school co education is gradually being recognized.

1.3.3. Students

Students are the objects of home school co education, and understanding their psychology is a prerequisite for effective home school co education.

1.4. Research Significance

The "double reduction" policy clearly proposes to improve the mechanism of family school collaborative education, clarify the responsibilities of family school collaborative education, enrich the communication methods of family school collaborative education, expand the path of family school collaborative education, and build a community of family school collaborative education. Under the background of "double reduction", family school collaborative education has encountered difficulties in trust, communication, cooperation, and organization in practice. A consensus on education has not yet been fully formed between families and schools, communication channels between families and schools have not been fully unblocked, division of responsibilities between families and schools has not been fully clarified, and collaborative organizations between families and schools have not been fully standardized. The countermeasures to solve the dilemma of family school collaborative education under the

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background of "double reduction" mainly include: establishing a trust mechanism for family school collaboration, promoting the formation of a consensus on education between family and school; Establish a family school collaborative communication mechanism to promote efficient communication between families and schools; Establish a collaborative mechanism between family and school, promote the joint efforts of family and school in education, establish a collaborative organizational mechanism between family and school, and promote the standardized operation of family and school organizations.

Family school co education is to fully leverage the positive role of the school and family, form an educational synergy, and jointly promote the healthy growth and comprehensive development of students. With the introduction of the "double reduction" policy, students have more free time and space for activities. In order to better play the promoting role of home school co education for students, it is necessary for schools and families to cooperate and support each other. However, in reality, due to the influence of many factors, there may inevitably be some problems in the process of cooperation between schools and families, making it difficult to play a positive role in family school education.

2. Analysis of the Development Status of the Family School Collaborative Education Model under the Double Reduction Policy

2.1. Differentiation Test of the Questionnaire

2.1.1. Steps

Table 1. Steps for Questionnaire Differentiation Test

Step 1	**Firstly, the normality analysis of the scale usually requires the scale to conform to a normal distribution.**
Step 2	Determine whether the P value shows significance (P<0.05) through T-test. If it shows significance, perform a difference analysis based on the mean and test value, describe the size of the difference. If there is a difference, it indicates that the scale item design is appropriate. If there is a difference, it indicates that the scale item cannot distinguish information, and if the design is unreasonable, it should be deleted.
Step 3	Summarize the analysis.

2.1.2. Analysis of Inspection Results

Table 2. Analysis of Questionnaire Differentiation Test Results

Differentiation analysis results					
Research questions	Group (mean ± standard deviation)			t	p
	0%-27%(n=21)	27%-73%(n=35)	73%-100%(n=21)		
Q1_ Your identity is	2.0±1.095	2.229±0.91	2.143±1.195	-0.404	0.689
Q2_ The amount of written homework you usually need to complete	2.714±0.717	3.0±0.767	3.381±0.921	-2.618	0.012**
Q3_ Are you satisfied with your current school learning and life	2.857±0.359	3.286±0.667	3.81±0.928	-4.385	0.000***
Q4_ Who do you think is responsible for educating children	4.619±1.717	5.571±0.948	6.0±0.0	-3.686	0.001***
Q5_ Do you know what the "double reduction policy" specifically refers to	1.429±0.598	1.629±0.547	1.762±0.436	-2.064	0.046**
Q7_ Do you think it is necessary for family school co education under the background of "double reduction"	3.381±0.921	3.743±0.78	4.571±0.507	-5.19	0.000***
Q15_ Do you think the effectiveness of implementing home school collaborative education activities in schools is significant	2.905±0.7	3.457±0.817	4.19±0.981	-4.889	0.000***
Q16_ What is your attitude towards the "home school co education" practical activity organized by the school	3.143±0.573	3.714±0.789	4.476±0.602	-7.353	0.000***
Note: ***, **, * represent significance levels of 1%, 5%, and 10%, respectively					

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The above table presents the results of differentiation analysis, including the mean ± standard deviation results, T-test results, significance P-values, etc.

Analyze whether the P-value of each analysis item is significant (P<0.05).

If it is significant, perform a difference analysis based on the mean and test value, describe the size of the difference. If there is a difference, it indicates that the scale item design is appropriate. If there is a difference, it indicates that the scale item cannot distinguish information, and if the design is unreasonable, it should be deleted.

The differentiation analysis results are as follows:

Table 3. Differentiation Analysis Results

Variable	The value of P	Is it significant
Q1	0.689	N
Q2	0.012**	Y
Q3	0.000***	Y
Q4	0.001***	Y
Q5	0.046**	Y
Q7	0.000***	Y
Q15	0.000***	Y
Q16	0.000***	Y

2.2. Questionnaire Quality Control

2.2.1. Reliability Test

(1) Parameter Description

Table 4. Explanation of Reliability Test Parameters

Parameter Description	
Cronbach's α Coefficient value	**Evaluate whether the collected data is true and reliable, and based on this, identify unreasonable or random answers to questions.**
Standardized Cronbach's α Coefficient value	**Standardization is to convert scales with different scores for unified measurement. When dimensions are inconsistent, such as analyzing scales with 5-point and 10-point scales together, standardization is necessary and can be used.**
number of terms	**Number of variables involved in reliability analysis calculation.**

(2) Analysis steps

1) For Cronbach's α There is currently no unified standard for analyzing coefficients (or half coefficients), but according to many mathematicians, generally Cronb α If the coefficient (or half coefficient) is above 0.9, the reliability of the test or scale is excellent. A range of 0.8 to 0.9 indicates good reliability, 0.7 to 0.8 indicates acceptable reliability, 0.6 to 0.7 indicates average reliability, and 0.5 to 0.6 indicates less than ideal reliability. If it is below 0.5, it is necessary to consider rearranging the questionnaire.

2) Further analyze the item total statistical table to see which items have caused a decrease in overall reliability. If the reliability is lower than 0.3 for the "correlation between corrected items and total" value, or if the "correlation between deleted items α The coefficient value is significantly higher than α The coefficient can be considered to eliminate the question at this time.

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The reliability coefficient of questionnaire reliability analysis is as follows:

Table 5. Reliability Analysis Results

Cronbach's α coefficient	Standardized Cronbach's α coefficient	number of terms
0.366	0.426	8

(3) Visualization processing

Figure 1. Visualization of Reliability Analysis Results

2.2.2. Validity Test

(1) Step description:

Firstly, conduct KMO and Bartlett tests. For the KMO test, 0.9 is very suitable for factor analysis: 0.8-0.9 is more suitable; 0.7-0.8 is suitable; 0.6-0.7 is still acceptable; 0.5-0.6 represents difference: 0.5 should be given up. The KMO value test shows that there is a correlation between the variables in the question, which meets the requirements of factor analysis.

For Bartlett's test, if the significance is less than 0.05, the original hypothesis is rejected, indicating that factor analysis can be performed. If the original hypothesis is not rejected, it indicates that these variables may independently provide some information and are not suitable for factor analysis.

(2) Inspection parameters

Table 6. Parameter Inspection

KMO test and Bartlett's test		
KMO value		0.511
Bartlett sphericity test	Approximate chi square	90.349
	df	28
	P	0.000***
Note: * * *, * *, * represent significance levels of 1%, 5%, and 10%, respectively		

The results of the KMO test showed that the value of KMO was 0.511, while the Bartlett's spherical test showed a significance P-value of 0.000 * * *, showing significant significance at the level. The original hypothesis was rejected, and there was a correlation between the variables. Factor analysis was effective.

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3. Exploration of the Future Development of Three Schools' Collaborative Education Models

3.1. Analysis of Overall Suggestions for the Future Development of Home School Collaborative Education Model based on Text Mining

3.1.1. Text Mining of Suggestions for the Development of Family School Collaborative Education Model

In this survey questionnaire, the questions "What are your new suggestions for the future development of home school co education?" and "What are your expectations for the future development of home school co education?" were set as open-ended questions for residents.

In traditional questionnaire data analysis, it is difficult to accurately and effectively analyze open-ended questions. However, in the past two years, popular text mining and Python word cloud technology have provided effective tools for this article.

NLPIR natural language processing and information retrieval sharing platform are used for further text mining. The text source is the text data collected in the questionnaire, and the respondents' suggestions and expectations on the future development of home school education are saved in text format and imported into Python software. The text mining process is realized with the help of Python's WordCloud module and other data analysis modules. The overall results are shown in the following figure.

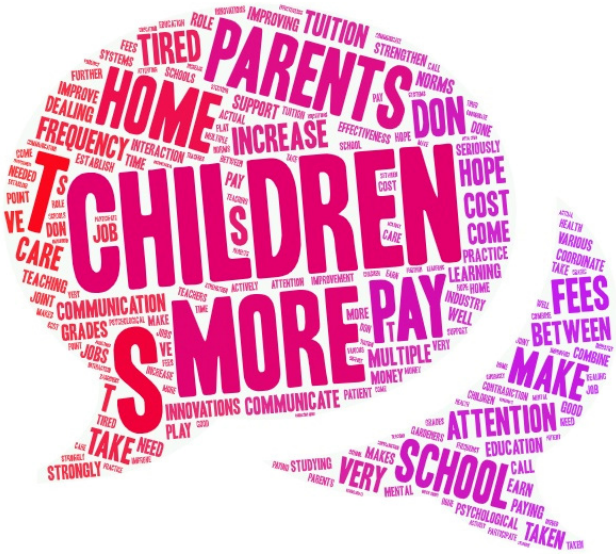

Figure 2. Overall Word Cloud Chart of Suggestions for the Future Development of the Family School Collaborative Education Model

4. Research Conclusion and Future Development Suggestions on the Family School Collaborative Education Model

4.1. Research Conclusion

Overall, 90% of the sample have their own views on the collaborative parenting model between home and school. From this, it can be inferred that the cognitive level of the family school collaborative education model among Chinese people is at a relatively understanding stage. After analyzing the specific questions in the questionnaire, we delved into the current situation of the home school collaborative education model and drew the following conclusions:

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4.1.1. In Terms of Family Education Philosophy

According to the survey, over 70% of parents believe that cultivating strengths based on their children's hobbies should be the most important choice in arranging learning content for their children independently. At the same time, 56% of respondents believe that education is a systematic activity that schools and families collaborate on, indicating that parents have a preliminary concept of collaborative education.

4.1.2. Attitudes Towards Family Education

A survey shows that most parents choose to inquire about their children's school situation through online methods such as making phone calls or sending messages to teachers, while a small number of parents actively visit teachers to learn about their children. This indicates that although parents attach great importance to their children's education, they do not invest enough time and energy, especially with too few people actively seeking to know.

4.1.3. Family Education Content

A survey shows that 79% of parents believe that cultivating their children's ideological and moral character is the most important, followed by their children's physical and mental health and interpersonal communication. This indicates that parents nowadays have a more comprehensive education for their children, not only focusing on the accumulation of knowledge in books, but also on how to make their children grow up healthy and happy.

4.1.4. Family Education Guidance

The majority of parents have a high recognition of the school and teachers, with over 80% of parents expressing their recognition of the school's regular practice of home school co education and believing that the effect is significant. This indicates that parents hold a supportive attitude towards the home school collaborative education model.

4.2. Development Trends and Suggestions

4.2.1. Development Trends

Family education is both a family matter and a national matter. The Implementation Opinions on Further Strengthening the Construction of Family Ethics in Family Education jointly issued by the Central Propaganda Department, the Ministry of Education, and the Central Civilization Office require strengthening institutional guarantees, strengthening effective collaboration among departments, and forming a joint force for the construction of family ethics in family education. The 12th Provincial Party Congress proposed to promote collaborative education between schools, families, and society. Promoting family school collaborative education and creating a new pattern of family school co education is of great significance for running people's satisfaction education and comprehensively building socialist modernization.

4.2.2. Development Suggestions

In order to better develop and apply the home school co education model to practical life, we propose the following suggestions from three levels: government, school, and parents:

1. Government aspect

(1) Improve policies and regulations to provide fundamental guarantees for collaborative education between families and schools.

We should further refine existing policies and laws and regulations, clarify the specific responsibilities and collaborative methods of each family and school, and make collaborative education between families and schools effective. Strengthen institutional guarantees and improve the collaborative mechanism between family and school. Clarify the boundaries of family and school responsibilities as soon as possible, so that both families and schools have a common goal and the correct role positioning. Family education focuses on "educating people", while school education focuses on "teaching". Close cooperation, strengthened communication,

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effective complementarity, fulfilling each other's responsibilities, and better cultivating children's healthy growth.

(2) Coordinate and coordinate functional departments at all levels to provide organizational support for family school collaborative education.

Governments at all levels should clarify and implement their respective work responsibilities, focusing on promoting the construction of a family education guidance service system covering urban and rural areas and improving the family school collaborative education mechanism. From the dimensions of organizational attributes and functional implementation, they should carefully plan, strengthen linkage, and divide responsibilities, focus on coordinating the relationship between school education and family education, and clarify and compact the responsibilities of government functional departments.

2. School aspect

(1) Establish a sense of cooperation and establish channels for parent education.

In response to the late promotion of the concept of family education in China, many parents are not very familiar with the role that families should play in the home school co education model. It is recommended to establish specialized parent education courses to optimize parents' educational concepts and abilities. On the one hand, schools or communities can organize systematic parent training courses to help parents value the significance of family education for their children's growth, cultivate skills in parent-child communication, and understand students' psychological characteristics of growth. On the other hand, they can also strengthen public opinion guidance and widely promote the "Basic Code of Conduct for Parent Family Education" issued in 2020 and other excellent educational experiences.

(2) Regularly hold parent meetings.

Organize a parent meeting to report the main situation of the class to parents. At the parents' meeting, teachers should actively communicate with parents about the school's teaching objectives, direction, and related measures. For parents' concerns, teachers should actively answer questions. For students' performance at home that teachers want to understand, parents should also actively cooperate and truthfully respond. Teachers should not only communicate with parents in a timely manner about students' performance at school and home, but also understand the psychological state of each student, To prevent the occurrence of psychological diseases such as depression from affecting students' mental health, parents' meetings can also involve students, feel the good intentions of teachers and parents, and stimulate their positive and diligent learning awareness.

3. In terms of parents

(1) Establish good communication channels and maintain contact with the school.

Actively participate in activities organized by the school, actively understand the learning situation of children, provide effective suggestions for the school's educational philosophy, actively maintain contact with the school, actively communicate with the child's performance at home and school, and frequently communicate with teachers to promptly detect any abnormal phenomena in the child, care for the child's mental health, and ensure that the child learns better in a good psychological state.

(2) Provide sufficient care and positive support to children at home.

Strengthen communication with children, listen to their opinions more, and cultivate their independent thinking and self-learning abilities. Finally, parents should provide correct guidance in their children's extracurricular activities, help them cultivate correct interests, improve their social skills, enrich their children's spiritual life, and enhance their sense of social responsibility.

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