

# *The Value, Challenges, and Pathways for Restructuring Compulsory Education Ecosystem in the Context of "Double Reduction"*

Chuanyang Yue\*

*Department of Education, Southwest University, Chongqing, 400715, China*

*chuany6633@163.com*

*\*Corresponding author*

**Keywords:** Double Reduction, Education Ecosystem, Compulsory Education

**Abstract:** The "Double Reduction" policy holds significant value for restoring balance in the education ecosystem and optimizing the educational ecosystem. However, examining compulsory education ecology under the lens of ecology reveals that the entrenched "robbing Peter to pay Paul" culture in student learning factors hinders innovative assignment design. The rapid fluctuations in the teacher ecosystem and the weakening of teacher "ecological resilience" affect teaching quality. The segregation of the "home-school-community" nurturing structure leads to a "collective absence" of family and social educational functions. The stable structure of the examination culture leads to a "two-way squeeze" between "intelligence education" and "grades." Ecological damage under the "middle-class trap" results in a "clear reduction but hidden increase" in students' extracurricular training burden, exacerbating the urban-rural curriculum and teaching "polarization." For the "Double Reduction" policy to be effective, it should focus on the "ecological balance perspective" and the "ecosystem perspective." This involves exploring "smart burden reduction" methods for student assignments, improving the mechanism for "double reduction" work for teachers, establishing a collaborative "home-school-community" education internet, returning to the original mission of moral education, enhancing the governance system for selecting and nurturing talent, and achieving "misplaced" high-quality development of urban and rural education. This will promote the education ecosystem from imbalance to balance and disorder to systematization, allowing students' learning to return to the essence of education.

## 1. Introduction

For a long time, various levels and types of policies aimed at reducing the burden of compulsory education have been introduced, but their effectiveness has been limited. The burden reduction reform has fallen into a cycle of "one step forward, two steps back," resulting in the peculiar situation of "visible reduction but hidden increase" and a shift from reducing burdens within schools to increasing burdens outside of schools [1]. To effectively achieve the goal of "burden reduction," alleviate parental anxiety, promote comprehensive student development, and strengthen the role of

schools as the main educational institutions, in July 2021, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Further Reducing the Homework and Extracurricular Training Burden of Students in Compulsory Education Stage" (hereinafter referred to as the "Opinions"). This policy aims to address the deep-rooted issues of homework and extracurricular training burdens, attempting to break through the practical challenges of "burden reduction" at the source. The profound reform brought about by this "sprint" is bound to have a significant impact on education, leading to rapid changes in the education ecosystem. This necessitates the reconstruction of compulsory education ecology to facilitate a new balance in the educational ecosystem. Based on a thorough analysis of the "Opinions" and using a mixed research approach, this study aims to analyze the complex and dynamic relationship between compulsory education ecosystem factors and the development of the education sector in the context of "Double Reduction." It seeks to explore pathways for the restructuring of compulsory education ecology and provide insights for implementing moral education and high-quality education development.

## **2. Ecological Analysis of the Educational Implications of the "Double Reduction" Policy**

Ecological principles have been applied in educational research for a long time. In 1976, American scholar Lawrence Cremin introduced the concept of educational ecology. He recognized the complexity of educational contexts and advocated the use of ecological perspectives such as balance, interconnectedness, and dynamics to examine educational issues [2]. From an ecological standpoint, various elements within the education system, including students, teachers, parents, education experts, curriculum teaching methods, the environment, and extracurricular training, are interconnected and interact with each other. When one of these elements functions poorly, it can disrupt the balance of the educational ecosystem, hindering the overall educational development. Ecological balance is the ultimate goal of an ecosystem, and the "Double Reduction" policy, at its core, aims to restore balance within the educational ecosystem, thus optimizing it.

### **2.1. The "Double Reduction" Policy Facilitates the Attainment of a New Equilibrium in the Educational Ecosystem**

Ecological balance refers to a dynamic equilibrium where the structure and functions of all components within an ecosystem are in harmony and adaptation under stable conditions over a certain period of time. Before the era of "Double Reduction," the excessive burden of student homework led to a neglect of the integration of the "five dimensions of education." Meanwhile, the excessive burden of extracurricular subject training weakened the role of schools as primary educational institution, resulting in an imbalance in students' physical and mental development, the loss of the school's educational dominance, and an increase in the financial burden on families. This situation meant that the internal self-regulation capacity of the educational ecosystem could not restore itself to its original state, resulting in an "imbalance" in the educational ecosystem. The value of the "Double Reduction" policy lies in using institutional leverage to regulate the educational ecosystem, promoting balance in the structure, orderly operation, and efficient functionality of compulsory education, and achieving a new equilibrium in coordination with the external ecological environment. The policy primarily focuses on reducing the burden of in-school student academic work and extracurricular training. By controlling these two ecological factors through external mechanisms, it aims to adjust the structure of the educational ecosystem and effectively regulate its functions, thereby enabling the structure and functions of the educational ecosystem to return to a relatively stable state. Ultimately, this transformation allows the educational ecosystem to move from a state of "balance-imbalance" to a "new balance."

## **2.2. The Essence of the "Double Reduction" Policy is to Promote Functional Unity within the Educational Ecosystem**

The educational ecosystem is a comprehensive and interconnected system that requires an ecological perspective for contemplation. The concept of an ecosystem was first proposed by British botanist Arthur Tansley in 1935. It refers to a unified entity in a certain region (or space) where all living organisms interact with the environment, involving energy conversion, material cycling, and information exchange functions. The fundamental principle emphasizes the interconnections, interactions, and functional unity among various factors within the system [3]. All entities within the educational ecosystem interact with the environment, imparting characteristics of fluidity, multilayeredness, and functionality [4]. In the pre-"Double Reduction" era, excessive homework burdens left students "suspended" in the school classroom ecosystem, while the burden of extracurricular training caused students to be "inverted" in the educational ecosystem. These issues weakened the interconnections and interactions between students, teachers, and educational factors such as teaching, post-class services, and family education. Consequently, the functionality of the educational ecosystem remained disjointed. When examining the "Double Reduction" policy from the perspective of the educational ecosystem, its essence lies in optimizing the functions of the educational ecosystem. The goal is to break down the barriers imposed by limiting factors, allowing for the smooth exchange of materials, information, and energy. This, in turn, establishes new connections among educational factors such as students, teachers, schools, teaching, and educational training institutions. By promoting coordination and dynamic optimization among all elements of the educational ecosystem, the policy seeks to achieve functional unity within the educational ecosystem.

## **3. Analysis of Challenges in the Restructuring of Compulsory Education Ecosystem under the Context of "Double Reduction"**

Ecological systems exhibit horizontal and vertical separation characteristics. "Horizontal separation" refers to a system composed of two or more components, where each part or component must combine in an orderly manner according to specific specifications and strict procedures. "Vertical separation" implies that system components can form subsystems or even smaller components within themselves, known as sub-sub-system. Accordingly, the educational system is a diverse ecological system with its own structure and hierarchy. Its structure includes three different levels: macro, meso, and micro. The macro level encompasses the dynamic relationships between the global, national, and local economies, politics, culture, technology, and education. The meso level includes elements such as the education system, national financial investments, educational culture, and public education platforms. The micro level refers to the elements, structure, functions, and their interrelationships within schools at all levels and types [5]. The complex structure of the education system bestows upon its unique functions. The non-uniformity of these functions becomes a hindrance to the positive improvement of the educational ecosystem. Therefore, the introduction of the "Double Reduction" policy, although aimed at restructuring the educational ecosystem, faces certain challenges. Based on the structural and functional framework of the compulsory education ecosystem, this analysis will examine the obstacles to the restructuring of the compulsory education ecosystem, considering factors at the micro level such as student assignments and teacher work, the meso level including the "home-school-community" relationships and examination culture, and the macro level involving social strata and regional education disparities.

### **3.1. The Rigidity of the "Question-Oriented" Cultural Logic in Student Learning Factors Hinders Innovative Assignment Design**

Among the influencing factors within the educational ecosystem, student learning factors are a core concern. However, this factor has become a critical element disrupting the educational ecosystem. Constrained by the "score-oriented" mentality, homework has been considered the "authoritative" way to assess student learning outcomes, leading to an overemphasis on quantity rather than quality. The cultural logic of the "question-oriented" approach implies that by doing more exercises, students can earn higher scores, resulting in a proliferation of assignments without due consideration for their quality. Research has shown that students who complete their homework in less than one hour achieve higher grades than those who spend more than an hour on homework. Additionally, as the time spent on homework increases, students' academic performance gradually declines, exhibiting a phenomenon of "diminishing returns" [6]. Mechanical, repetitive, and ineffective assignments only waste students' time and diminish their enthusiasm for learning, impacting the effectiveness of their learning activities. The "Double Reduction" policy places significant emphasis on the relationship between the number of student assignments and the quality of learning. Therefore, it demands a reduction in the number of foundational assignments, aiming to eliminate mechanical and repetitive homework at its source. However, during the implementation of the "Double Reduction" policy, several issues have been identified. Firstly, there is a lack of scientific criteria for distributing the number of foundational assignments versus exploratory assignments, making it challenging to ensure a scientifically balanced approach. Secondly, the design of exploratory assignments places higher demands on teachers' professional abilities, resulting in difficulties in designing such assignments. Thirdly, there is a lack of effective evaluation criteria for exploratory assignments, making it difficult to assess students' developmental levels and performance. Fourthly, exploratory assignments are more challenging and require students and parents to invest more time and effort. Consequently, the shift from a focus on the quantity of assignments to the complexity of assignments has resulted in a situation where the burden of assignments has "decreased visibly but increased covertly," indirectly impeding the effective implementation of the "Double Reduction" policy.

### **3.2. The Rapid Fluctuations in the Ecological Range of Teachers and Weakened "Ecological Resilience" Affect Teaching Quality**

The educational ecosystem is not only directly related to student learning activities but is also closely intertwined with the "ecological range" of teachers within the ecosystem. According to the ecological scientist Shelford, in an ecological system, each environmental factor has a specific range of adaptability known as the ecological range. If a factor exceeds the tolerance level of organisms, it becomes a limiting factor, thereby exceeding the resilience limits of the ecological range [7]. The "Double Reduction" policy aims to alleviate students' academic burdens and places demands on teachers to enhance the quality of classroom teaching and post-class services. This sharp increase in the workload of teachers has left their ecological range in a state of fluctuation. The "lightning-speed" fluctuations in the ecological range have weakened teachers' required "ecological resilience," resulting in a decline in work quality. This decline is primarily manifested in two aspects. First, the self-organized learning space of teachers has been compressed, affecting the quality of classroom teaching. Teachers' teaching duties include lesson preparation, classroom instruction, assignment, creation and grading, extracurricular tutoring, and academic assessment. Lesson preparation directly influences the quality of classroom teaching. Post-class services have reduced teachers' available time for self-study and training. Additionally, the increased non-teaching workload has reduced the investment of time and energy in teaching, significantly affecting the

quality of classroom instruction. Second, teachers' participation in post-class services is relatively low, making it challenging to enhance educational effectiveness. Investigations have revealed three reasons for the low motivation among teachers to engage in post-class services. Firstly, there is a lack of effective incentive systems, diminishing teachers' motivation to participate. Secondly, teachers face pressures from their family lives, including caring for parents and children. This is especially true for teachers in dual-income households, as they struggle to allocate time. Thirdly, the long hours spent on teaching often lead to physical and mental fatigue, reducing their energy for additional activities. Therefore, during the initial phase of the implementation of the "Double Reduction" policy, teachers find themselves in uncharted territory. The new environment exceeds their ecological adaptability, making it difficult for them to become "producers" within the educational ecosystem, unable to provide resources and energy to students, who are the "consumers" of education.

### **3.3. Segmentation in the "Home-School-Community" Educational Structure Leads to a "Collective Deficiency" in Family and Social Education Functions**

Family education, school education, and social education all exist within the educational ecosystem, and each plays a crucial role. Education begins in the family, and from the perspective of the educational functions and roles of families, the family serves as the foundation for an individual's intellectual maturity, spiritual growth, and the formation of values [8]. Social education also has an irreplaceable role in an individual's overall development and is a necessary form of education for comprehensive growth. Under the "Double Reduction" policy, the question arises of how to affirm the role of families and society in education when the school is emphasized as the primary educational institution [9].

Specifically, there are two main challenges: Deviation in Family Educational Functions: The "Double Reduction" policy aims to regulate the management of subject-specific training institutions and encourages students to return to learning at home. However, under the pressure of an examination-oriented culture and the competitive nature of the education system, parents often lack the cultural reflexivity to shift their educational focus from academic achievement to holistic development. As a result, family education loses its clear functional orientation, with parents still concentrating on the "intellectual education" aspect, neglecting the development of their children's personalities. Invisibility of Social Educational Functions: Within the community, some places designated for children's activities show signs of having educational materials and books that have not been utilized. These materials often do not align with the educational needs of children, indicating the lack of targeted and effective educational efforts in the community [10]. Social education resources remain underutilized, as their potential impact on individual education is not fully realized. The disconnection or mismatch between school education and the social environment can lead to difficulties in establishing new worldviews and social perspectives for students, resulting in various social adaptation issues. Therefore, there is a need to harness the roles of family and social education to achieve synergy in the "home-school community" and stabilize the structure and functionality of the educational ecosystem.

### **3.4. The Solid Structure of Examination Culture Leads to a "Bidirectional Involution" of "Intellectual Education" and "Grades"**

In the past, under the influence of an education system focused on grades, exam-oriented culture, and the belief in "one exam determines a lifetime," students' learning objectives predominantly revolved around "intellectual education" and the pursuit of high exam scores and further education. This value system has evolved into what is commonly referred to as "examination culture," deeply

embedded in society. Examination culture encompasses implicit exam-oriented beliefs, explicit exam-related behaviors, abstract national psychology, and concrete examination systems [11]. The "Double Reduction" policy aims to promote the holistic development and well-being of students, intending to shift the focus away from the "heroism of high score" mentality. However, changing the stable beliefs and learning behaviors associated with examination is a challenging task. The policy's restrictions on "testing" have created an imbalance within the educational ecosystem.

Specifically, there are two main challenges: Dominance of "Intellectual Education" in Examination Culture Hinders Integration of the "Five-Education Fusion": The "Five-Education Fusion" within the perspective of ecological education integrates the five aspects of education (intellectual, moral, physical, aesthetic, and labor education) into the student's classroom ecosystem, allowing them to interpenetrate and form a holistic educational experience [12]. Under the influence of the "intellectual education"-dominant examination culture and the utilitarian view of talent, education lacks a holistic development perspective, making it challenging to nurture well-rounded individuals. Exclusivity of "Grades" in Examination Culture Neglects Practical Skills: "Grade-only" evaluation is an activity in which students, teachers, and the entire education system are judged and ranked solely based on scores [13]. In a society where the sole focus is on "scores," practical activities by students struggle to establish effective evaluation mechanisms and often go underappreciated, leading to students being "giants in thought but dwarfs in action."

### **3.5. Ecological Damage Resulting from the "Middle-Class Trap" Leads to a "Visible Reduction but Concealed Increase" in Students' Extracurricular Training Burden**

The irregular and unregulated expansion of extracurricular training institutions has severely encroached upon and disrupted the foundations of basic education ecosystems, negatively impacting school education [14]. This has led to illegal activities and a host of societal issues [15], necessitating ecological restoration within the education system. The "Double Reduction" policy has influenced the development of extracurricular training institutions. As of the end of 2021, there were significant reductions in offline and online subject-specific training institutions, with reduction rates of 91.45% and 87.07%, respectively, effectively curbing the expansion of these institutions [16]. However, the burden of extracurricular training has seen new growth.

On the one hand, subject-specific training is now concealed within "home tutoring." Specifically, middle-income families, in their pursuit of breaking out of the "middle-class trap," are actively seeking avenues for their children's education. This is driven by factors such as social class immobility and narrow social mobility pathways [17]. Middle-income families can often only focus on their children's "grades" and further education to secure a brighter future. They resort to one-on-one private tutoring or group tutoring, which may incur even higher costs than previous extracurricular training expenses. Consequently, many families have not experienced a significant reduction in their financial burden. Furthermore, middle and high-income families tend to invest more in both in-school and extracurricular education for their children compared to low-income families [18], exacerbating parental anxiety. On the other hand, there is a phenomenon of "replacement" occurring within extracurricular training institutions. Non-subject-specific training institutions are replacing subject-specific ones, shifting the training burden from subject-specific areas to non-subject-specific ones. The "Double Reduction" policy primarily addresses issues related to subject-specific training institutions, but the regulation of non-subject-specific training still needs to be strengthened. These two factors combined result in a risk of a "visible reduction but concealed increase" in students' extracurricular training burden under the backdrop of the "Double Reduction" policy.

### 3.6. Educational Ecological Imbalance in Pursuit Leads to "Polarization" in Urban and Rural Curriculum and Teaching

Environmental resources possess regional and competitive characteristics. Regional characteristics refer to the uneven distribution of resources, with significant regional differences in quantity or quality. Competitive characteristics arise from the scarcity of resources, where resource scarcity makes resource allocation an efficiency a measure of the rationality of resource allocation. Efficient allocation of educational resources, on the one hand, can maximize benefits and is also a prerequisite for ensuring educational equity [19]. Due to factors such as economics, politics, geography, the long-standing urban-rural binary structure, and hierarchical management of compulsory education, compulsory education has also exhibited an urban-rural binary structure. There are significant structural differences in resource allocation between urban and rural areas, leading to uneven levels of compulsory education development between urban and rural areas. This issue is highlighted by rural areas striving to "catch up" with urban education, but the gap is "not decreasing but increasing." This has also led to "minor improvements in the gap in the number of urban and rural teachers, significant structural differences persist, and the gap in quality is worsening" [20]. For example, in 2021, all newly recruited teachers in Shenzhen middle school were Ph.D. graduates from first-class universities, causing an accumulation of advantageous educational resources in urban areas. This phenomenon is particularly pronounced in the eastern regions, to the extent that the educational ecology between regions is in an imbalanced state. Regional educational ecological imbalances directly affect the implementation and effectiveness of the "Double Reduction" policy in different regions and deserve significant attention [21].

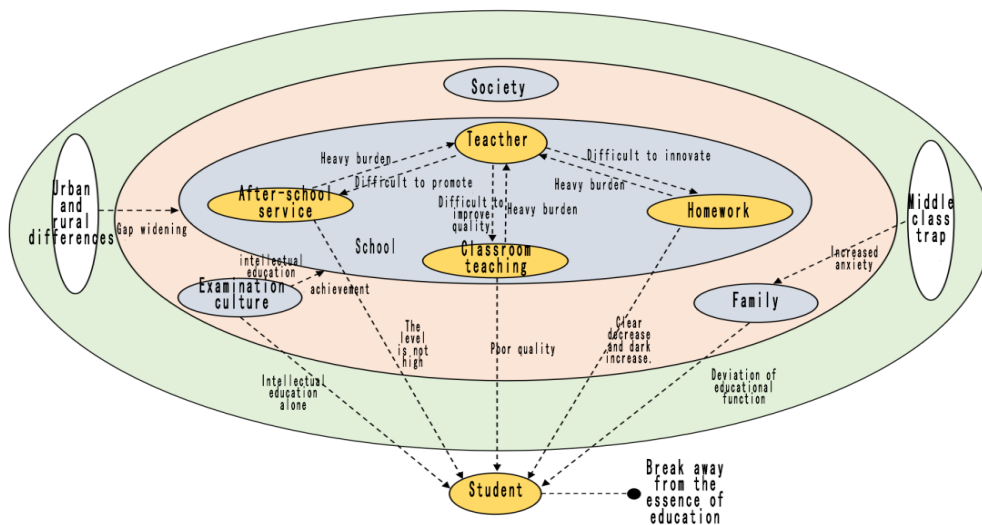


Figure 1: Ecological Non-equilibrium State of Compulsory Education

In summary, the educational ecosystem has encountered multiple challenges in the process of reconstruction, hindering the implementation of the "Double Reduction" policy. In a nutshell, at the micro-level, there are difficulties in innovating homework design, and the increased workload of teachers makes it challenging to enhance the quality of classroom teaching and the level of after-school services [22]. At the meso-level, with the return of education to schools as the main educational institution, family education is influenced by the examination culture, focusing on "intellectual education" and "grades," while the social education function is "missing," resulting in a gap between "home, school, and community." At the macro-level, resistance to the "Double Reduction" policy from various social strata and the growing urban-rural resource gap are prominent. These obstacles collectively impede the educational ecosystem from transitioning from

"imbalance" to "balance," resulting in an imbalanced state of compulsory education ecology, as illustrated in Figure 1.

#### **4. Analysis of the Path to Restructuring Compulsory Education Ecology in the Context of "Double Reduction"**

In the context of "Double Reduction," advancing the restructuring of the education ecosystem is an inevitable requirement for promoting comprehensive student development, healthy growth, and achieving high-quality compulsory education. To restore the balance of the educational ecosystem and optimize the educational ecosystem, it is necessary to overcome the challenges in the three ecological chains at the micro, meso, and macro levels during the implementation of the "Double Reduction" policy. Only then can the compulsory education ecosystem be reconstructed, and the dynamic equilibrium achieved in the educational ecosystem [23].

##### **4.1. Exploring Methods for "Intelligent Reduction of Academic Burden" for Students: Breaking Free from the Shackles of "Question-Drilling" Culture**

Homework, as an ecological factor involving students, teachers, parents, and other stakeholders, profoundly affects the effective operation of the educational ecosystem in terms of quantity and quality. In the context of "Double Reduction," homework assignments should be made more intelligent by utilizing scientific methods and information tools to achieve an organic combination of "reduction," "improvement in quality," and "enhanced efficiency" of homework [24].

Firstly, effective cross-school homework design discussions should be facilitated using the internet to achieve "reduction." Homework design should not be the sole responsibility of individual teachers but should establish a cross-school research system for homework design. It should be based on collective wisdom from the internet to select the most representative content for students, based on teaching objectives, while eliminating mechanical and ineffective assignments [25].

Secondly, modern information technology should be used to enhance the scientific nature of homework assignments to achieve "quality improvement." Students have differences in their knowledge base, cognitive abilities, and interests. When assigning homework, teachers should cater to the learning needs of students at different levels and with different knowledge levels. The use of digital educational resources is a viable method. Digital educational resources can not only serve as cognitive carriers for subject teaching but also record students' learning data, providing technical support for optimizing homework design processes and improving the level of homework design.

For example, in Jiangxi Province, the "Smart Homework" system automatically selects appropriate homework questions for students of different abilities based on the scope of homework assignments and student learning data provided by teachers.

Thirdly, the powerful memory and analysis capabilities of artificial intelligence should be utilized to ensure precise homework assessment and promote "efficiency enhancement." On the one hand, artificial intelligence tools should "remember" the real-time quantity, satisfaction, and answerability of students' homework completion to avoid redundant assignments and achieve the goal of "reducing the burden." On the other hand, the analytical capabilities of artificial intelligence should facilitate multi-faceted assessment of homework effectiveness. This should include self-assessment by students, assessment by parents, teacher evaluation, peer evaluation, community evaluation, and other diverse forms of assessment, along with scientific analytical results. This will promote a scientific and efficient homework assessment mechanism [26].



#### **4.2. Improving the "Double Reduction" Mechanism for Teachers: Enhancing the Ecological Tolerance Limits in and out of the Classroom**

In the context of "Double Reduction," while the burden on students has significantly reduced, the burden on teachers has increased. Allowing teachers to return to their rightful place in the classroom and systematically optimizing the post-class service ecosystem are the key to effectively alleviating teachers' ecological stress and are important approaches to "improving the quality of school education and postclass services." On the one hand, simplifying non-teaching tasks for teachers and ensuring that they invest their time in classroom teaching is essential to prevent teachers from becoming limiting factors in the classroom ecosystem, which can lead to an educational imbalance. This requires schools to establish sound teaching management regulations, coordinate the development of teaching plans, effectively guarantee the normal operation of teachers' teaching work, balance the relationship between teachers' teaching and administrative tasks, and provide teachers with sufficient preparation time. On the other hand, by systematically constructing postclass services, teacher burdens can be alleviated, their participation can be motivated, and they can serve as promoting factors in the postclass service ecosystem, thereby facilitating its smooth operation. Firstly, deepening the reform of the school's internal personnel system and supplementing teacher resources in a timely manner for primary and secondary schools can ensure adequate staffing for post-class services. For instance, external training institution teachers can be hired as post-class service teachers, addressing the issue of unemployment among personnel from external training institutions while providing teachers for post-class services. Secondly, clear and effective post-class service funding should be defined and implemented, along with incentive systems. Attractive subsidies for post-class services can motivate teachers. Therefore, the government should establish standards for public or fee-charged post-class services in schools, strengthen the funding, guarantee for school post-class services, and handle teacher performance-based salary assessments effectively. Thirdly, diversify post-class services to meet students' diverse learning needs. Post-class services should offer a variety of activities such as science popularization, cultural and sports activities, arts, labor, reading, interest groups, and club activities. They should not be used to introduce new curriculum content, thereby alleviating teacher fatigue. Fourthly, promote the "curricularization" of post-class services. "Curricularization" is a creative implementation of national post-class service policies and a practical choice to overcome the dilemma of "high cost and low efficiency" in post-class services and improve their quality. Integrating post-class services into the curriculum system is an important way to effectively connect classroom teaching and post-class services [27].

#### **4.3. Building a Collaborative "Home-School-Community" Internet Ecosystem: Optimizing the Synergy between Family Education and Community Education**

An essential characteristic of optimizing the education ecosystem is the enhancement of the functions of ecological factors. The stakeholders involved in "Double Reduction" are diverse, with families, schools, and communities being both independent educational ecological factors and closely connected communities. Only when these various factors that influence the educational ecosystem interact with each other, forming a synergistic effect where the whole is greater than the sum of its parts, can we achieve ecological optimization. Therefore, the "Double Reduction" policy aims to build a collaborative "home-school-community" internet ecosystem, emphasizing the role of schools as the mainstay of education while activating the educational functions of families and communities, two significant ecological factors [28]. It is evident that the implementation of "Double Reduction" is not solely the responsibility of individual schools; rather, it requires the optimization of the functions of family education and community education to promote

collaborative education among "home-school community." Collaborative "home-school-community" education can break the traditional closed model of school education, making "learning accessible to everyone, everywhere, and at all times" a reality. Firstly, it involves changing parents' parenting concepts to unlock the educational function of families. To harness the educational function of family education, the first step is to address parental anxiety. Parental educational anxiety is a social reality, largely due to the difficulty of balancing the immediate goals of learning with the long-term goals of development. Therefore, the implementation of "Double Reduction" should alleviate parents' rush for quick success, provide a reasonable orientation for students' comprehensive development, bridge the gap between knowledge and action in the educational process, and free parents from the constraints of "shadow education." Parents should wholeheartedly grow with their children, providing them with the "first lesson of life" in the family, and helping students transition effectively into the school environment. Secondly, it involves leveraging the advantages of social resources and tapping into the educational function of the community. By focusing on the utilization of community resources, the construction of community educational resources can be optimized. Around the implementation of the "Five-Education Fusion" goal, local governments and education authorities should optimize existing educational resources within the community [29]. This includes exploring potential educational resources and collectively working to enhance the educational functions of the community. Potential educational resources in the community are various learning, training, or experiential bases established through cooperation between communities. These resources contribute to the improvement of the comprehensive quality of primary, secondary, and high school students and provide various educational and training services to community residents. For example, on weekends or holidays, communities can make full use of existing facilities to conduct poetry and prose writing competitions, community concerts, and other activities. This not only effectively revitalizes community resources but also serves as an effective supplement to school education, enriches students' extracurricular lives, and promotes their physical and mental development [30].

#### **4.4. Returning to the Original Aspiration of Moral and Intellectual Education: Transforming the Mindset from "Exam-Oriented" to "Education-Oriented"**

The education ecosystem centered around the culture of exams has ingrained a fixed mindset of prioritizing "exam results" and distorted society's understanding of the value of education. This has deviated from the original intention of "education-oriented" education. The transformation of an education-oriented mindset is a crucial foundation for optimizing the education ecosystem. To achieve this transformation, changes need to be made in terms of the assessment mechanism, educational objectives, and values [31].

Firstly, there must be a shift in the assessment mechanism away from the notion of "heroic achievement based on scores" and a return to the initial aspiration of moral and intellectual education. Future assessment methods should show more respect for educational principles and the laws of talent development. Emphasis should be placed on dynamic, diagnostic, and diverse assessments. An educational assessment perspective should be established that aligns with students' lifelong growth, fostering individualized development under a diverse assessment framework. Secondly, it's essential to break free from the dilemma of "intellectual education dominance" and achieve "Five-Education Integration" to promote holistic human development. "Five-Education Integration" provides a new dimension to the educational assessment system, offering a comprehensive response to how "to cultivate individuals" in the new era. It aims to achieve holistic development in morality, intelligence, physical fitness, aesthetics, and labor through integration. Thirdly, there needs to be a transformation in the existing view of talent, fostering the belief that

"everyone can be talented, and everyone can display their talents." Transforming the view of talent requires eliminating societal "prejudices" against professions. This issue must be addressed at its roots, emphasizing the "social status" of vocational education. Progress must be made in bridging vocational education and general education, clarifying the distinct functional roles of these two types of education, both of which serve individualized and socialized needs [32].

#### **4.5. Improving the Talent Cultivation and Governance System: Alleviating the "Anxiety" of Middle-Class Families Regarding the Education Ecosystem**

The "Double Reduction" policy affects the interests of various groups, leading to the complexity of parental education anxiety. However, the gradual recognition of the policy, from the initial confusion among various sectors of society to eventual acceptance, is the result of coordinated efforts among different government departments. Therefore, the effective implementation of the "Double Reduction" policy must begin with top-level design and, through the combined efforts of policy formulation and government management, restore a healthy educational ecosystem. Firstly, there needs to be a transformation in the criteria for selecting talent and diversifying the means of talent mobility. Since 2019, China has officially entered the stage of universal higher education. However, "higher education has increased opportunities for upward mobility among disadvantaged groups." To eliminate social class barriers, it is necessary to accelerate the reform of the middle and high school entrance examination and college entrance examination systems, change the situation where "scores" are the sole "entry ticket" to higher education, strengthen policy support for disadvantaged groups, and diversify social class mobility. Secondly, a combination of classification and comprehensive governance models should be adopted. Classification governance involves implementing strict regulation measures, such as strengthening approval procedures, raising admission thresholds, and enforcing strict registration for subject-based training institutions. For the development of interest and specialty-based training institutions, the government should lower admission thresholds, strengthen in-process and post-process supervision, and adopt an inclusive and cautious attitude toward supervision and management. Comprehensive governance requires the government to establish a systematic management framework. Administrative staff should be trained in relevant policies to improve the efficiency of law enforcement. Therefore, it is necessary to strictly control subject-based training institutions through disguised means, create a socially satisfying educational environment, effectively govern school teaching to avoid "overly elitist" classroom education, and provide parenting guidance to help parents understand the educational thoughts embedded in the "Double Reduction," disseminate correct educational concepts, and alleviate their "anxiety" towards education [33].

#### **4.6. Focusing on the "Misalignment" of Education for Quality and Equity: Accelerating the Symbiotic Development of Urban and Rural Education**

The integration of urban and rural education is an inevitable choice to promote balanced education and a powerful "booster" for the implementation of the "Double Reduction" policy. China's long-standing urban-oriented policies and the urban-rural dual system have led to resource concentration in cities, resulting in a shortage of resources for rural compulsory education, which has placed rural education in a difficult situation. Therefore, advancing the integration of urban and rural education is key to promoting balanced education. Achieving "mismatched competition" in urban and rural education to achieve dual equilibrium is a necessary strategy. On the one hand, it is necessary to fully tap into local education resources in rural areas and harness the unique functions of rural education. Basic education in urban and rural areas demonstrates a harmonious and symbiotic relationship in terms of educational resource ecosystems. This includes local knowledge,

cultural landscapes, natural scenery, all of which are valuable rural resources. Advancing the integration of urban and rural education should be based on the rural revitalization strategy, making effective use of local rural resources and nurturing local talents who contribute to the development of their hometowns. On the other hand, it's important to consider the regional characteristics of urban and rural areas. The integration of urban and rural education does not mean "homogenization" but rather "differentiation." Therefore, exploring the development of integrated urban and rural education should be based on the premise of seeking coordinated development of urban and rural education. The disparities in development between urban and rural areas require that the "Double Reduction" policy be implemented with differentiation tailoring measures according to local realities to avoid a one-size-fits-all approach. Under the same "Double Reduction" policy, some regions may require "double reduction," while others may only need "single reduction," or some rural schools might even require an "increase" in workload to change their educational ecosystem. Therefore, seizing the opportunity provided by the "Double Reduction" policy, emphasizing the differences in urban and rural education, and seeking their respective strengths to achieve a balanced "one standard" approach is necessary [34].

In summary, the restructuring of the education ecosystem must be optimized at the micro, meso, and macro levels to restore the balance of the education ecosystem and promote the effective implementation of the "Double Reduction" policy. In conclusion, at the micro level, we need to explore "intelligent burden reduction" methods to achieve "reduction, improvement in quality, and enhanced efficiency" of homework, allowing teachers to return to classroom teaching and relieve their burdens through systematic postclass services. At the meso level, collaboration between "home, school, and community" should be promoted to facilitate the return of education to its original purpose. At the macro level, the "Double Reduction" policy should be used as an opportunity to focus on the differences in urban and rural education, seeking their respective strengths to achieve balanced and equitable development. This will result in a dynamically circulating balance in the compulsory education ecosystem, as represented in Figure 2.

In conclusion, the effective implementation of the "Double Reduction" policy holds significant value in the restructuring of compulsory education ecosystems. Restructuring these ecosystems involves ensuring functional coherence between subsystems and components within subsystems, ultimately achieving dynamic equilibrium in the education ecosystem [35].

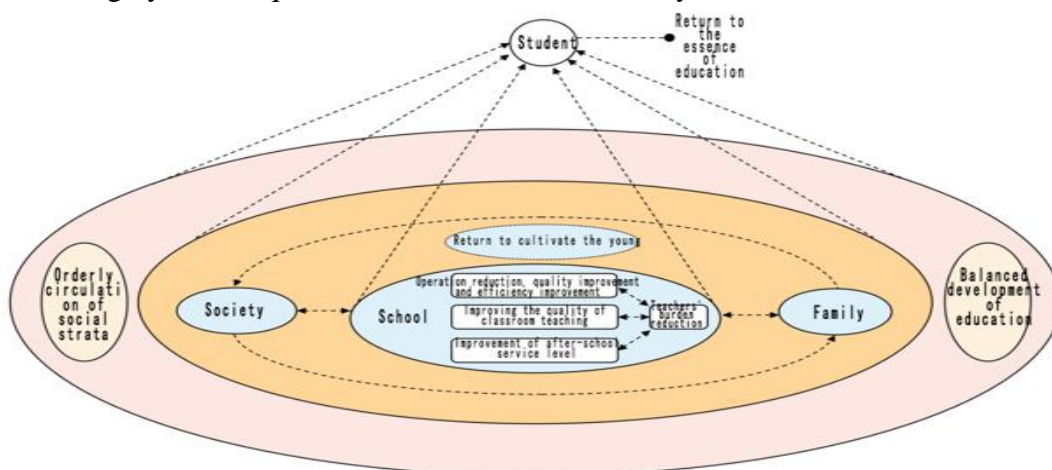


Figure 2: Ecological Equilibrium of Compulsory Education

## 5. Conclusion

"Summing up, under the background of the 'double reduction,' the reconstruction of the

compulsory education ecology needs to be optimized at the micro, meso, and macro levels to restore the balance of the education ecology and promote the effective implementation of the 'double reduction.' Specifically, as shown in Figure 2.

The micro level primarily focuses on optimizing educational activities within schools. At this level, it is essential to actively explore methods for 'intelligent reduction of academic burdens' to achieve a 'reduction in quantity, improvement in quality, and increased efficiency' of homework. This requires teachers to return to classroom teaching, invest more energy in improving teaching quality, and alleviate teacher burdens through the establishment of post-class services. Additionally, diversifying evaluations can make school education more in line with students' actual needs. Schools and teachers should actively explore innovative methods for homework design to reduce teachers' workload and enhance the quality of classroom teaching and post-class services.

The meso level primarily focuses on optimizing the interaction between schools and the external environment. At this level, it is important to coordinate the 'home-school-community' and promote education to return to the original aspiration of fostering morality and cultivating individuals. Strengthening cooperation among families, schools, and communities can form a common educational philosophy and goals, realize the sharing of educational resources and complementary advantages, and jointly promote students' comprehensive development, fostering a favorable educational atmosphere.

The macro level primarily focuses on optimizing policy formulation and management at the societal level. At this level, it is necessary to implement 'both policy formulation and government governance,' eliminate barriers to social mobility, and achieve orderly circulation of social strata. Simultaneously, advancing the integration of urban and rural education to achieve 'mismatched' high-quality and balanced development of education is essential, forming a dynamically flowing balanced state in the compulsory education ecology. Specifically, this includes measures such as balanced resource allocation, promoting educational equity, improving education quality, and optimizing educational structure.

In conclusion, the effective implementation of the 'double reduction' policy is of significant value for reconstructing the compulsory education ecology. Only through comprehensive optimization at the micro, meso, and macro levels can the dynamic balance of the educational ecosystem be achieved, promoting students' comprehensive development. Only in this way can we effectively address the multiple dilemmas faced during the process of reconstructing the educational ecology and smoothly promote the implementation of the 'double reduction' policy."

## References

- [1] Ma, Jiansheng, and Wu, Jiani. *Why is it Difficult for Student Load Reduction Policies to be Effective? - On the Essence and Mechanism of Time Allocation of Academic Burden*. *Beijing Normal University Journal (Social Sciences Edition)*, 2014(02), 5-14.
- [2] He, Zubin. *A Review of Research on Higher Education Ecology*. *Journal of Guangxi Normal University (Philosophy and Social Sciences Edition)*, 2005(01), 123-127.
- [3] Fan, Guorui. *Educational Ecology*. Beijing: People's Education Press, 1999, 21-22.
- [4] Chen, Lin. *The Connotation, Function, and Construction Path of China's Teacher Education Ecosystem*. *Contemporary Education Forum*, 2019(05), 32-39.
- [5] Wang, Yuqiu. *Research on Educational Ecology*. Nanchang: Jiangxi People's Publishing House, 2017, 3-4.
- [6] Wang, Yunfeng, Hao, Yi, and Li, Meijuan. *Research on the Relationship between Primary School Students' Academic Burden and Academic Achievement*. *China Educational Journal*, 2014(10), 59-63.
- [7] Chen, Yingxu. *Environmental Science*. Beijing: China Environmental Science Press, 2001, 36.
- [8] Zhai, Bo. *Establishing a New Era of Family Education Values*. *Educational Research*, 2016, 37(03), 92-98.
- [9] Wang, Xiande. *Challenges, Clarifications, and Practical Paths of Coordinated Education in the Context of "Double Reduction" in Compulsory Education*. *China Educational Journal*, 2022(02), 28-33.
- [10] Chu, Chaohui. *Strategies for Implementing Family-School-Community Collaborative Education*. People's

*Education*, 2021(08), 33-36.

[11] Wang, Zhongnan. *Examination Culture: Concept Definition and Framework Analysis from a Cultural Perspective*. *Contemporary Educational Science*, 2015(20), 48-52.

[12] Ning, Benta. "Five-Integration" and the Reconstruction of China's Basic Education Ecology. *China Electric Education*, 2020(05), 1-5.

[13] Zhou, Hongyu and Qi, Yanlei. *Implementation of "Double Reduction" Policy: Focus, Difficulties, and Suggestions*. *Journal of Xinjiang Normal University (Philosophy and Social Sciences Edition)*, 2022, 43(01), 69-78.

[14] Lu, Daokun, Wang, Chao, and Ding, Chunyun. *On the "Curriculumization" of Primary and Secondary School After-School Services*. *Chinese Educational Journal*, 2021(12), 11-15.

[15] Qian, Jie and Miao, Jiandong. *Possible Paths to Solve Parental Education Anxiety: Constructing an Educational Evaluation System Promoting Students' Comprehensive Development*. *Chinese Educational Journal*, 2021(09), 38-43.

[16] Li, Weitao. *Educational Collaborative Governance in the Process of Modernization: Barriers and Paths*. *Educational Development Research*, 2021, 41(03), 12-19.

[17] Fan, Yongfeng. *Eco-Reconstruction of High-Quality Development in Basic Education in the Post-Load Reduction Era*. *Journal of Sichuan Normal University (Social Sciences Edition)*, 2021, 48(06), 42-52.

[18] Wei, Yi. *In-School or Out-of-School: A Study on Family Education Expenditure in China's Basic Education Stage*. *Journal of East China Normal University (Educational Sciences Edition)*, 2020, 38(05), 103-116.

[19] Zhao, Qi. *Empirical Research on the Efficiency of Resource Allocation in Compulsory Education Based on DEA: A Case Study of Primary Schools in a City in the Eastern Region*. *Educational Research*, 2015, 36(03), 84-90.

[20] Yan, Naisheng. *The Road to Balanced Allocation of Teacher Resources in Urban and Rural Compulsory Education*. *Educational Science Research*, 2021(06), 25-31.

[21] Yang, Qing. *Research on Improving Homework in Primary and Secondary Schools in the Context of "Double Reduction"*. *Chinese Educational Journal*, 2021(12), 6-10.

[22] Ke, Qingchao, Bao, Tingting, and Lin, Jian. *Innovation in the Supply and Service of Digital Educational Resources in the Context of "Double Reduction"*. *China Electric Education*, 2022(01), 17-23.

[23] Ministry of Education. *Jiangxi Explores and Promotes "Smart Homework" to Further Improve the Quality of Homework in Compulsory Education Schools* [EB/OL]. (2021-10-29) [2022-04-01].

[24] Liu, Denghui and Bian, Bingbing. *The "Curriculumization" Approach to Primary and Secondary School After-School Services*. *Chinese Educational Journal*, 2021(12), 11-15.

[25] Qian, Jie and Miao, Jiandong. *Possible Paths to Solve Parental Education Anxiety: Constructing an Educational Evaluation System Promoting Students' Comprehensive Development*. *Chinese Educational Journal*, 2021(09), 38-43.

[26] Dong, Xinliang and Zhang, Yichen. *Research on the Dilemma and Overcoming of Compulsory Education Resource Allocation in the Context of High-Quality Equity*. *Educational Theory and Practice*, 2020, 40(19), 23-27.

[27] Zhao, Shangning and Shi, Dasheng. *The Dilemma and Beyond of Student Learning Evaluation Mode in Compulsory Education in China*. *Educational Theory and Practice*, 2021, 41(11), 22-25.

[28] Liu, Denghui and Li, Hua. *The Connotation, Framework, and Implementation of "Five-Integration"*. *Chinese Educational Science (Chinese-English)*, 2020, 3(05), 85-91.

[29] Duan, Huidong, Mo, Lijuan, and Wang, Yizhe. *How to Place Parental Educational Anxiety in the Context of "Double Reduction" Policies: An Analysis Based on the Transition from Kindergarten to Primary School*. *Journal of Guangxi Normal University (Philosophy and Social Sciences Edition)*, 2022, 58(02), 73-82.

[30] Zhao, Hongxia, and Wang, Lemei. *Facilitating or Constraining: The Impact of Higher Education on Social Mobility - An Empirical Analysis Based on CGSS Mixed Cross-Sectional Data*. *Higher Education Exploration*, 2020(09), 5-11.

[31] Yang, Cheng. *The Realistic Dilemmas and Implementation Strategies for Governing Off-Campus Training Institutions*. *Primary and Secondary School Management*, 2022(01), 32-35.

[32] Qu, Tiejia. *Integration of Urban and Rural Compulsory Education: Theoretical Foundation and Necessity*. *Journal of Hebei Normal University (Education Science Edition)*, 2017, 19(03), 18-21.

[33] Yan, Xiaocheng. *Ecological Dilemma and Optimization Strategy of Urban and Rural Basic Education Integration Development*. *Theoretical Monthly*, 2020(11), 132-139.

[34] Tan, Tianmei and Ouyang, Xiujun. *Review and Reflection on the Research of Urban and Rural Education Integration Development in China*. *Modern Distance Education Research*, 2022, 34(02), 64-72.

[35] Yang, Xiaowei and Wen, Yan. *The Current Situation, Difficulties, and Future Focus of Research on the Implementation of "Double Reduction" Policies*. *Journal of Xinjiang Normal University (Philosophy and Social Sciences Edition)*, 2022(04), 1-14.