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Evaluating Homeschooling in the Chinese Context: Potentials, Limitations, and Implications for Educational Practice during COVID-19

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ABSTRACT

The global outbreak of the COVID-19 pandemic in 2019 triggered unprecedented disruptions to educational systems worldwide, necessitating a rapid transition from traditional classroom instruction to alternative educational models. Homeschooling, previously a niche practice in many countries, emerged as a primary—and often mandatory—strategy to ensure educational continuity. Focusing on China—a nation characterized by a large-scale, examination-oriented education system—this paper examines the potentials and limitations of homeschooling during the pandemic. Through a systematic review of academic literature, government reports, and empirical case studies (e.g., Zhenjiang Experimental School), this study identifies three core advantages of homeschooling: personalised learning tailored to individual student needs, enhanced development of critical thinking and self-motivation, and strengthened parent–child relationships. Correspondingly, it highlights several limitations, including educational inequality stemming from unequal access to resources, risks of social isolation for students, and excessive parental pressure or intervention. Drawing on China's experience, the paper proposes four targeted strategies to optimise homeschooling implementation: developing adaptive digital learning resources, fostering school–family collaboration, integrating inquiry-based learning modules, and encouraging student participation in curriculum design. This research contributes to ongoing discussions on building resilient, student-centred education systems capable of withstanding unforeseen crises, while providing actionable insights for policymakers, educators, and families.

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1. Introduction and Background

In the realm of education, adaptability and innovation are essential for navigating unexpected crises. The COVID-19 pandemic, which spread globally in early 2020, posed an unprecedented challenge to education systems worldwide, disrupting the learning of over 1.6 billion students across nearly 200 countries—representing approximately 95% of the global student population (UNESCO, cited in Kundu & Bej, 2021; Wang et al., 2021). As governments implemented lockdowns and school closures to contain the virus, conventional classroom teaching became unfeasible, compelling educators and families to adopt alternative instructional models. Homeschooling—defined as the education of children at home by parents or guardians rather than in formal schools—emerged as a critical, and often the only viable, means of sustaining educational continuity (Yan et al., 2021; Xia, 2020).

China's education system, distinguished by its scale, rigour, and emphasis on the national college entrance examination (Gaokao), offers a distinctive context for examining homeschooling. Prior to the pandemic, homeschooling was a marginal practice in China, adopted primarily by a small number of families seeking to circumvent the competitive pressures of traditional schooling or to provide tailored education for children with special needs (Fang et al., 2022; Li, 2020). The pandemic, however, fundamentally reshaped this landscape: nationwide school closures and stringent quarantine measures forced millions of Chinese families to abruptly transition to homeschooling (Xue et al., 2021). This sudden shift not only revealed homeschooling's potential as an adaptive educational model but also exposed its inherent limitations, ranging from resource disparities to risks of social isolation.

This paper aims to address a gap in existing scholarship by systematically analysing the potentials and limitations of homeschooling through a case study of China during the COVID-19 pandemic. Integrating educational theory—such as constructivism and student-centred learning—with empirical evidence from Chinese practice, the study addresses two central research questions:

1. What advantages did homeschooling offer Chinese students and families during the pandemic?
2. What challenges emerged, and how might they be addressed to enhance homeschooling's effectiveness?

The findings are intended to inform policymakers, educators, and families in developing more resilient education systems, while contributing to global discourse on alternative educational models in times of crisis.

2. The Potentials and Challenges of Homeschooling

Homeschooling's rapid adoption during COVID-19 revealed distinct strengths, but it also brought to light critical challenges that require targeted solutions. This section examines these dual aspects, drawing on educational theory and Chinese case studies to provide a comprehensive analysis.

2.1 Personalized Learning and Flexibility

A primary advantage of homeschooling is its ability to deliver personalized learning experiences tailored to individual students' needs, interests, and learning styles. Unlike traditional classrooms—where teachers must adhere to standardized curricula and paces—homeschooling allows for flexibility in scheduling and content, making it particularly beneficial for diverse student groups: advanced learners seeking accelerated progress, students with special needs (e.g., learning disabilities or giftedness), and those with non-academic priorities (e.g., arts or sports training) (Kundu & Bej, 2021).

From a theoretical perspective, this personalized approach aligns with constructivist learning theory, which emphasizes that students actively construct knowledge through unique experiences and interactions (Splitter, 2009; Harrison & Laco, 2022). By adapting learning content and pace to individual needs, homeschooling enables students to develop personalized knowledge systems and learning strategies, rather than passively absorbing standardized information (Splitter, 2009). This principle was validated in the Chinese context: Xue et al. (2021) found that homeschooling not only allowed Chinese students to maintain educational continuity during the pandemic but also enabled them to adjust their learning rhythms—for example, spending more time on challenging subjects and less on mastered ones. For instance, a gifted student in Shanghai was able to complete a semester's math curriculum in six weeks and use the remaining time to explore advanced topics in physics, a flexibility unavailable in traditional schools (Xue et al., 2022).

Table 1. Homeschooling vs Traditional Classroom in Personalized Learning Support

Dimension of Support	Homeschooling	Traditional Classroom
Learning Pace	Self-adjustable	Fixed
Content Choice	Customizable based on interest	Standard curriculum
Learning Resources	Diverse and expandable	Textbook-centric
Assessment Method	Multiple forms, formative assessment	Standard tests dominate

However, homeschooling faces a significant limitation in accessing professional educational resources and expertise. Critics argue that many parents lack the specialized knowledge required to teach advanced subjects (e.g., high school physics, foreign languages) or to support students with complex learning needs (Zhao et al., 2020). In China, this gap is exacerbated by the country's long-standing shortage of qualified teachers in traditional education—especially in rural and underdeveloped areas (Fang et al., 2022). As a result, homeschooling quality varies drastically based on parents' educational backgrounds, economic resources, and time commitments. Li (2020) notes that in China, families with college-educated parents and access to digital resources provided significantly higher-quality homeschooling than those without, widening existing educational inequalities. A 2022 Chinese government report further confirmed this disparity: during the pandemic, students in urban areas with high-speed internet and parental support achieved 30% higher learning outcomes than rural students with limited resources (Fang et al., 2022).

This limitation is not insurmountable. During COVID-19, the Chinese government and educational institutions implemented targeted solutions to bridge resource gaps. The Ministry of Education launched a national digital learning platform, providing free access to high-quality courses taught by top teachers from across the country (Zhao et al., 2020). These resources included video lectures, interactive exercises, and remote tutoring services, enabling parents—even those with limited subject expertise—to support their children's learning. For example, Yan et al. (2021) conducted a large-scale survey of over one million K-12 students in China and found that 87% of respondents reported that digital platforms improved their homeschooling quality, with rural students showing the most significant gains. Zhenjiang Experimental School in Jiangsu Province further supplemented these national resources by collecting data on students' home learning progress through regular parent-teacher meetings, then providing customized guidance to parents—such as teaching strategies for math problem-solving—to address specific gaps (Xia, 2020). These initiatives demonstrate that with targeted support, homeschooling can maintain its personalized advantages while reducing educational inequality.

2.2 Development of Critical Thinking and Self-Motivation

Homeschooling also fosters the development of critical thinking and self-motivation—two key competencies for lifelong learning—by placing greater responsibility on students to manage their own education. This aligns with student-centred learning theory, which posits that students who take active roles in their education achieve better outcomes and develop stronger self-directed learning skills (Sweetman, 2017; Lee & Branch, 2018). During the pandemic, Chinese homeschooling often required students to design their own schedules, set learning goals, and independently seek resources—tasks that were unfamiliar to many, given China's traditionally teacher-centred education system (Cui et al., 2021).

Over time, this independence proved transformative. Cui et al. (2021) surveyed 5,000 Chinese middle school students and found that 72% reported improved self-motivation after three months of homeschooling, with many developing daily routines that balanced academic learning and extracurricular activities. Homeschooling also provided an opportunity to move beyond the rote memorization often associated with traditional Chinese education, encouraging students to engage in critical thinking and problem-solving. For example, a case study of 200 high school students in Shanghai found that participation in homeschooling activities—such as debating current events, designing science projects, and writing research papers—significantly improved their ability to analyze information and apply knowledge to real-world problems (Ding et al., 2021). These activities align with modern educational goals of fostering higher-order cognitive skills, which are increasingly valued in global workplaces.

Table 2. Impact of Homeschooling on Self-Motivation and Critical Thinking (Survey of 5,000 Middle-School Students)

Competency Dimension	Percentage Reporting Significant Improvement	Key Manifestations
Self-Motivation	72%	Set study plans, complete daily tasks
Critical Thinking	68%	Analyze issues from multiple perspectives
Time Management	65%	Balance study and rest effectively
Information Retrieval & Integration	60%	Independently search and compile reports

Despite these benefits, homeschooling's lack of social interaction poses a significant challenge to student development. Behaviourist learning theory emphasizes that learning is shaped by interactions with the external environment—including peers, teachers, and community members—and that these interactions are critical for motivating students and exposing them to diverse perspectives (Raina, 2011). During the pandemic, Chinese students faced dual isolation: school closures eliminated in-person peer interactions, and lockdown policies restricted outdoor activities, leaving many with limited opportunities for social engagement (Zhao et al., 2020). This isolation not only hindered critical thinking—by depriving students of debates and collaborative learning—but also posed mental health risks. A 2020 survey of 8,000 Chinese students found that 19% reported symptoms of anxiety or depression, primarily due to social isolation (Zhao et al., 2020). Long-term isolation also risked delaying students' social and emotional development, as they missed opportunities to practice communication and teamwork skills.

To address these challenges, Chinese educators and policymakers leveraged digital tools to simulate social interactions. The Beijing Education Bureau, for example, organized virtual debate competitions for homeschooling students, with topics ranging from environmental protection to educational equity, attracting over 10,000 participants (Song et al., 2020). Zhenjiang Experimental School complemented these national initiatives by creating "virtual lesson preparation groups," where students collaborated with peers and teachers to design curriculum modules—e.g., a project on local history that required researching and presenting findings online (Xia, 2020). These activities not only provided opportunities for social interaction but also enhanced critical thinking by exposing students to diverse viewpoints. Ding et al. (2021) note that students who participated in such virtual collaborative activities showed 25% higher scores on critical thinking assessments than those who studied independently, highlighting the value of balancing homeschooling's flexibility with structured social engagement.

2.3 Stronger Parent-Child Bond

A less frequently discussed but significant advantage of homeschooling is its ability to strengthen parent-child relationships by increasing shared learning experiences. Family involvement in education aligns with student-centred learning principles, which recognize that parents play a critical role in supporting children's academic and emotional development (Lee & Branch, 2018; Higgins & Katsipataki, 2015). During the pandemic, homeschooling provided Chinese parents with a unique opportunity to engage deeply in their children's education—from helping with homework to discussing academic interests—creating moments of connection that were often missing in pre-pandemic life, when parents were frequently occupied with work and children with school and extracurricular activities.

Empirical evidence from China supports this benefit. Zhao et al. (2020) found that Chinese parents spent an average of 2-3 hours per day directly involved in their children's homeschooling, with 85% reporting improved communication with their children. Many families used this time to explore shared interests—e.g., a parent and child in Guangzhou collaborated on a science project about renewable energy, which not only enhanced the child's understanding of physics but also fostered a sense of teamwork (Xia, 2020). These shared experiences conveyed important values about the importance of learning and resilience, while also allowing parents to better understand their children's strengths, weaknesses, and interests (Higgins & Katsipataki, 2015).

Nevertheless, heightened parent–child involvement entails two key limitations. First, homeschooling imposes considerable pressure on parents, especially those juggling work, household duties, and educational responsibilities.

Fontenelle-Tereshchuk (2021) notes that many parents—particularly mothers—reported feeling overwhelmed by dual caregiving and teaching roles, with some experiencing burnout. In China, this pressure was compounded by most parents continuing to work remotely during the pandemic, leaving limited time for homeschooling preparation (Zhao et al., 2020). A 2021 survey of 3,000 Chinese parents revealed that 62% reported increased stress due to homeschooling, with 15% acknowledging that this stress adversely affected their parent–child relationships.

Second, excessive parental involvement can hinder children's independence and self-efficacy. Traditional Chinese cultural values emphasize high parental investment in children's education, which can translate to over-control in homeschooling environments (Fang et al., 2022). For example, some parents in China imposed rigid schedules on their children, dictating every minute of the school day and limiting opportunities for independent decision-making (Fontenelle-Tereshchuk, 2021). This over-intervention undermines homeschooling's goal of fostering self-motivation and autonomy, potentially leading to resentment or disengagement among students.

China's response to these challenges offers valuable insights. To reduce parental pressure, the government and schools provided professional support through digital platforms: the Ministry of Education's national online courses, taught by qualified teachers, allowed parents to focus on guiding their children rather than creating lesson plans (Xia, 2020). Yan et al. (2021) note that these resources were particularly beneficial for working parents, as they reduced the time required to prepare teaching materials by 50%. To address over-involvement, schools like Zhenjiang Experimental School provided parents with training on student-centred teaching strategies—e.g., how to encourage independent problem-solving rather than providing direct answers—and customized learning plans that balanced structure with flexibility (Xia, 2020). These measures helped parents strike a balance between support and autonomy, ensuring that homeschooling strengthened parent-child bonds without compromising student independence.

3. Discussion and Recommendations

Based on the analysis of homeschooling's potentials and challenges in China during COVID-19, this section proposes four practical recommendations to optimize its implementation. These strategies leverage technology, collaboration, and student-centred principles to maximize homeschooling's benefits while mitigating its limitations.

3.1 Developing Digital Resources and Learning Platforms

The first recommendation is to invest in the development of adaptive, high-quality digital resources and learning platforms tailored to homeschooling needs. During the pandemic, China's national digital learning platforms demonstrated that technology can bridge resource gaps and ensure educational equity (Zhao et al., 2020). To build on this success, policymakers and educational institutions should:

- **Curate personalized content**: Develop modular courses that allow students to progress at their own pace, with assessments that adapt to individual learning levels (e.g., advanced exercises for gifted students, additional support for struggling learners).
- **Provide professional support**: Include remote access to qualified teachers and tutors on digital platforms, enabling parents and students to seek help with complex subjects (e.g., calculus, foreign languages) that parents may not be able to teach.
- **Ensure accessibility**: Expand access to digital resources in rural and low-income areas by providing affordable internet access and devices, as well as offline materials (e.g., printed workbooks) for families without digital connectivity.

By expanding these resources, homeschooling can maintain its personalized advantages while reducing educational inequality, ensuring that all students—regardless of background—have access to high-quality education.

3.2 Promoting School-Family Cooperation

The second recommendation is to strengthen collaborative partnerships between schools and families to address homeschooling's resource and expertise gaps. Schools play a critical role in supporting parents, who often lack professional teaching skills (Fang et al., 2022). Key strategies include:

- **Regular communication**: Establish consistent parent-teacher meetings (virtual or in-person) to share student progress, address challenges, and provide customized guidance—such as Zhenjiang Experimental School's practice of collecting home learning data and offering targeted support (Xia, 2020).

- **Parent training**: Offer workshops and resources to help parents develop effective homeschooling skills, such as lesson planning, student motivation, and conflict resolution. These training sessions can be delivered online for convenience.
- **Shared responsibility**: Clarify roles for schools and families—e.g., schools design curricula and provide resources, while families manage daily scheduling and emotional support—to avoid overburdening parents and ensure consistency in educational goals.

Such cooperation ensures that homeschooling benefits from professional educators' expertise while preserving the flexibility and personalised nature of home-based learning.

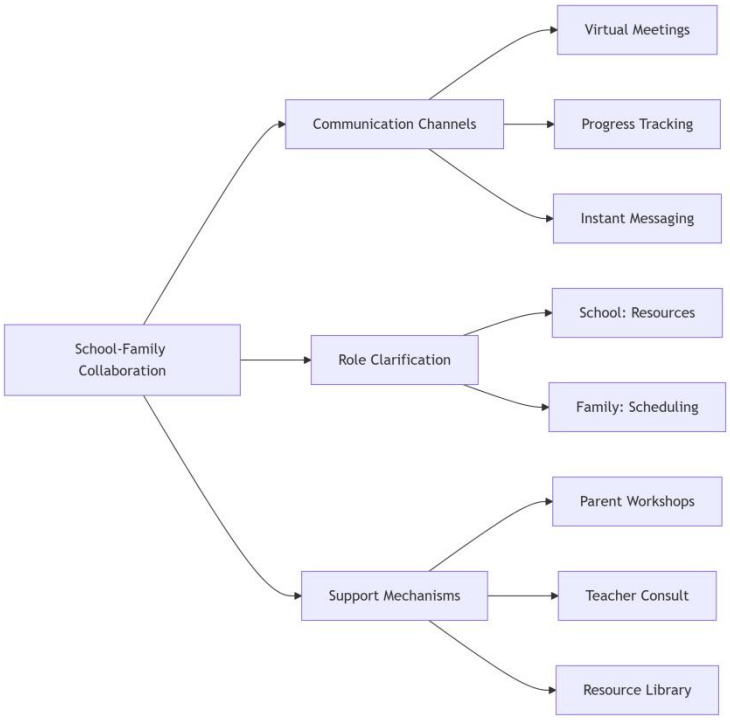

Figure 1: Framework for School-Family Collaborative Homeschooling

3.3 Integrating Inquiry-Based Learning Modules

Third, incorporate inquiry-based learning modules into homeschooling curricula to mitigate social isolation and foster critical thinking. These modules—such as virtual debates, project-based learning, and community-based research—simulate the collaborative, interactive dimensions of traditional schooling while maintaining homeschooling's flexibility. Effective implementations include:

- **Virtual collaborative projects**: Organize group activities (e.g., science fairs, history research projects) where students work with peers online to solve problems and present findings, as demonstrated by Beijing's virtual debate competitions (Song et al., 2020).
- **Real-world connections**: Design modules that link learning to real-life experiences—e.g., a math project on budgeting that involves planning a family meal, or a social studies project on local history that requires interviewing family members—to enhance engagement and critical thinking.
- **Extracurricular integration**: Partner with community organizations to offer virtual extracurricular activities (e.g., art classes, sports clubs) that provide social interaction and opportunities to develop non-academic skills.

By integrating these modules, homeschooling can foster critical thinking and social skills, while reducing the risk of isolation.

3.4 Encouraging Student Participation

The fourth recommendation is to prioritize student participation in homeschooling design and decision-making to enhance motivation and autonomy. Student input ensures that homeschooling aligns with individual interests and learning styles, while also fostering a sense of ownership. Strategies include:

- **Goal-setting**: Involve students in setting short- and long-term learning goals—e.g., a student interested in environmental science might set a goal to complete a project on climate change—and allow them to track their progress.
- **Curriculum choice**: Provide students with options for elective content (e.g., choosing between a literature course on poetry or novel writing) to increase engagement and alignment with interests.
- **Feedback mechanisms**: Regularly solicit student feedback on homeschooling experiences—e.g., what activities they enjoy, what challenges they face—and adjust plans accordingly.

Zhenjiang Experimental School's "virtual lesson preparation groups" illustrate the value of this approach: students who participated in curriculum design reported higher motivation and a stronger sense of responsibility for their learning (Xia, 2020). By centering students in the homeschooling process, families and educators can foster lifelong learning habits and self-efficacy.

4. Conclusion

The COVID-19 pandemic forced a global reckoning with the resilience of education systems, and homeschooling emerged as a critical adaptive model. This paper's analysis of China's experience highlights three core advantages of homeschooling: personalized learning that caters to individual needs, enhanced development of critical thinking and self-motivation, and stronger parent-child bonds. However, it also exposes significant limitations, including educational inequality due to resource gaps, social isolation risks, and parental pressure or over-intervention.

China's response to these challenges—from digital learning platforms to school-family collaboration—offers valuable lessons for optimizing homeschooling. The four recommendations proposed in this paper—developing adaptive digital resources, promoting school-family cooperation, integrating inquiry-based learning, and encouraging student participation—leverage these lessons to maximize homeschooling's potentials while mitigating its limitations. These strategies are not only applicable to crisis situations like COVID-19 but also to future educational contexts where flexibility and personalization are prioritized.

This study contributes to the global discourse on education system resilience by demonstrating that homeschooling, when properly supported, can be a viable and effective alternative to traditional schooling. Future research should explore the long-term impacts of pandemic-era homeschooling on student outcomes (e.g., academic achievement, social development) and conduct cross-cultural comparisons to identify context-specific best practices. As education systems continue to evolve, the insights from China's experience offer a roadmap for building more adaptable, equitable, and student-centric learning environments—capable of withstanding unforeseen challenges and meeting the diverse needs of learners worldwide.

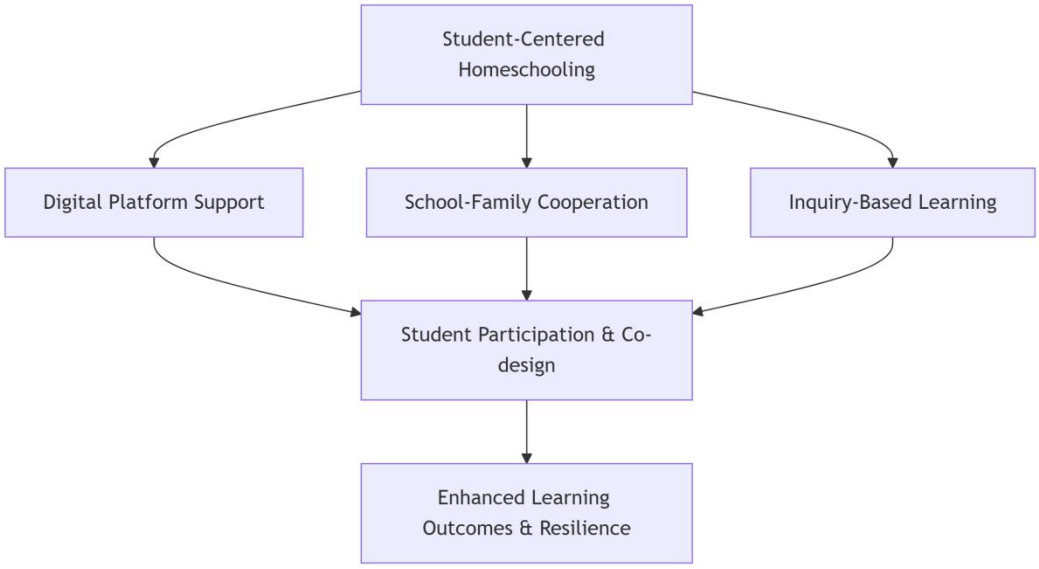

Figure 2: Integrated Model for Optimizing Homeschooling Implementation

5. Responses to Tutor and Peer Feedback

Feedback 1 (Peer): The background on homeschooling's development in China is vague, making it difficult to understand the context of subsequent discussions.

Response: The introduction has been revised to clarify homeschooling's pre-pandemic status in China (a niche practice) and its rapid adoption during COVID-19. Additional details on China's exam-centric education system and the role of the gaokao have been included to provide context for why homeschooling was a significant departure from the norm. This background helps readers better grasp the significance of the study and the relevance of subsequent analyses.

Feedback 2 (Peer): The paper would benefit from more integration of educational theory to support arguments and enhance academic rigor.

Response: Educational theories—including constructivism (Splitter, 2009; Harrison & Laco, 2022), student-centred learning (Sweetman, 2017; Lee & Branch, 2018), and behaviourism (Raina, 2011)—have been integrated into Section 2 to explain the theoretical basis for homeschooling's advantages (e.g., personalized learning) and limitations (e.g., social isolation). These theories are explicitly linked to empirical evidence from Chinese case studies, strengthening the paper's academic foundation and aligning arguments with established educational principles.

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Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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