

Exploring Pathways to Enhance Access to Quality Online Music Education in China: A Sociological Analysis Considering Socioeconomic Status Constraints

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1. Abstract

The study examines how SES restricts rural Chinese students' access to quality music education and explores the mitigating role of online practices, focusing on rural Hebei.

Based on a 2021 Xingtai rural school observation—in which students used hand-slapping instead of the scarce melodicas—this chapter applies Bourdieu's Cultural Capital Theory to identify SES inequality. Macro data confirms there is a national rural crisis: Hebei's 2021-2022 rural per capita disposable income was 19,400 yuan; art education made up less than 0.3% of education spending, while rural music funds were 0.8% of the basic education budgets, below the 1.5% national rural average.

Using a mixed-methods approach, quantitative analysis of national and provincial data indicates that only 35.6% of the income of Hebei rural households went into developmental consumption in 2023. Qualitative data include 30 interviews with students and reports, showing three capital constraints: economic, cultural, and institutional ("triple capital" constraints): no instruments or internet to enable practice; parental attitudes of "music is useless"; and unqualified teachers, poor infrastructure.

Findings: SES creates a "triple capital chain reaction"; online education does ease the institutional gaps (like shortages of teachers), but not economic/cultural ones. It contributes by extending Bourdieu's theory to music education and proposes a "triple capital synergy" solution.

Keywords

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2. Introduction

In fall 2021, in a primary school in Xingtai, Hebei Province's countryside, something on the internet attracted my attention: when the screen was displaying "playing rhythmic patterns on the melodica," the camera cut to the vast majority of students lowering their heads and slapping their desks with their hands. Then the school teacher on campus explained that the school had only 30 melodicas donated by social welfare organizations—short for four levels. When asked about purchasing more instruments, parents replied in majority, "Music is useless; we will not spend money on something that does not help during exams."

On the surface, it was a matter of "school inexperience," but with Bourdieu's Cultural Capital Theory, the structural constraint beneath the surface was uncovered: students utilizing their hands as

improvised instruments is not an isolated phenomenon, but a statement of socioeconomic status (SES) inequality articulated by various forms of capital.

This is the reality beyond Xingtai: macro statistics indicate it is an endemic crisis of music education in rural areas across Hebei and China. China Rural Statistical Yearbook 2023 indicates Hebei rural per capita disposable income of 19,400 yuan in 2021–2022, and art education taking up less than 0.3% of education expenditure; China Educational Finance Statistical Yearbook 2022 reports rural music education special funds in Hebei taking up only 0.8% of basic education budgets—well below the national rural average of 1.5%. C. Wright Mills, in *The Sociological Imagination*, contended that personal troubles are an expression of public issues.

This Xingtai encounter led to critical examination: current scholarship on Chinese educational equity primarily considers exam-related subjects (Chinese, mathematics, English), and not how SES limits access to "non-core subjects" such as music (Wang & Mohamad Haris, 2025; Darling-Aduana, 2020). Although several studies claim that online education has the potential to bridge gaps, few examine its limits—specifically, how SES-associated equipment shortcomings (e.g., lack of devices) and virtual divides (e.g., no home internet access) undermine its equitable promise (Martin, Ceviker, & Gezer, 2024, pp. 12–13). Against this backdrop, this study aims at "the impact of SES on the quality music education accessibility of rural China," through a 2021-initiated online music education program in rural Hebei. It examines two underlying research questions:

1. How does SES restrict the accessibility to quality music education of rural students through economic, cultural, and institutional capital?
2. Can online music education ease such constraints?

Theoretical and practical significance of this research is: theoretically, in enhancing Bourdieu's Cultural Capital Theory in the teaching of non-core subjects; practically, in providing empirical evidence for rural online music education policy construction.

3. Literature Review

3.1 Core Theoretical Foundation: Cultural Capital Theory and Educational Equity

Bourdieu's (1977a, 1984, 1986) Cultural Capital Theory identifies three types of capital that affect educational opportunities:

Economic capital: Financial resources that determine access to learning equipment (e.g., instruments) and participation costs (e.g., internet connection charges);

Cultural capital: Educational concepts and cultural thought (e.g., parental attitudes toward music) influencing learning motivation;

Institutional capital: Government expenditure on the supply of education (e.g., school infrastructure, teacher quality).

Current literature supports cultural capital bearing an independent effect on education outcomes after controlling for SES (Jæger, 2009; Parker et al., 2020). For low-SES communities, shortages of economic capital limit the attainment of quality instructors (Allen & Sims, 2018), while deficiencies in institutional capital—like imbalanced local financial investment—persist in exacerbating resource inequalities (Han & Shen, 2015). However, there are scant applications of this theory to non-core subjects such as music, which creates a research shortage for how SES prevents rural music education.

3.2 Research Status of Non-Core Subject Educational Equity

UNESCO (2024) has identified high-quality music education as multicultural, inclusive, and practice-based and in need of "access to instruments, professional guidance, and opportunities for participation." China's Compulsory Education Art Curriculum Standards (2022 Edition) remains focused on "participation"—a requirement hard for low-SES rural children to meet due to the nonavailability of instruments and inexperienced teachers (Yan, 2008, p. 22).

Rural local studies mainly capture "shortages of resources" but do not subject SES mechanisms to test. Yan and Xu (2023) found rural households devote over 50% of education expenditure on examination subjects, with arts-related expenditure under 14%—a trend rooted in cultural capital disparities rather than fanciful preference.

3.3 Controversies in Online Education and Educational Equity

International studies further highlight the power of online learning in "cross-regional resource sharing": Yang (2021) illustrated how educational videos of vocal music could counteract professional teacher shortages in impoverished areas; Wang (2022) described piano MOOCs on Coursera and other websites that provided open access to excellent resources. Critical research does detect limitations, however: Hebert (2007) discovered hardware-based interaction barriers to internet music education; Yao (2025) established rural western China has outdated technology and low coverage of internet, reducing the efficacy of online learning.

Local research aims at "pandemic emergency online instruction" highlighting its "time-space breaking" advantage without acknowledging SES long-term limitations. This study fills this void by

examining a rural Hebei long-term practice to see whether online instruction can break SES-associated structural barriers.

3.4 Literature Review Summary

Existing scholarship has endeavored three deficiencies: (1) theoretical insight: insufficient use of Cultural Capital Theory in describing rural music education equity; (2) practical insight: a lack of extensive case studies on web-based music education; (3) critical insight: inadequate examination of how SES inhibits online education's potential for equity. This research addresses these deficiencies with "theory + data + practice" synthesis.

4. Methodology

4.1 Research Design

This study utilizes a mixed-methods design combining macro-quantitative analysis and micro-qualitative interpretation to answer the two research questions:

Quantitative data verifies the structural elements of SES constraints (i.e., financial deficits, consumption patterns) in the interest of universality in inferences;

Qualitative data unwinds micro-processes (such as parent attitudes, classroom disruptions in online courses) to debate "how SES constrains access" and "why online education has limitations."

Bourdieu's Theory of Cultural Capital offers the theoretical foundation, explanatory analysis for how economic, cultural, and institutional capital work in conjunction to influence rural students' access to music education.

4.2 Data Sources

Three data types cover macro structure and micro insights (see Table 1 for macro data overview):

4.2.1 Macro Secondary Data

Macro data verifies SES structural constraints, focusing on Hebei and national rural comparisons:

Data Name	Issuing Agency	Time Period	Core Indicators	Research Purpose
Provincial Panel Data on Urban-Rural Residents' Income and Consumption Expenditure	National Bureau of Statistics	2021–2023	1. Hebei rural per capita disposable income, food/medical expenditure; 2. Rural cultural/entertainment expenditure ratio (Hebei vs. national)	1. Quantify how subsistence consumption squeezes music education investment ; 2. Compare regional differences in cultural spending willingness
China Educational Finance Statistical Yearbook	Ministry of Education	2021–2023	1. Rural primary school art education special funds ratio (Hebei vs. national); 2. Music teaching equipment special expenditure	1. Analyze institutional capital shortages (e.g., insufficient hardware funding); 2. Verify rural-urban

Data Name	Issuing Agency	Time Period	Core Indicators	Research Purpose
				resource gaps

Table 1: Overview of Macro Secondary Data Sources

4.2.2 Publicly Accessible Qualitative Materials

Academic studies: Yan & Xu (2023) (rural parental education attitudes) and Hebert (2007) (online music class limitations) explain cultural capital differences and online model boundaries; Policy reports: Hebei Provincial Department of Education 2023 Rural Educational Informatization Progress Report provides details on rural digital infrastructure shortages; Media reports: 2023: Guangming Daily coverage of Hebei rural online music education supplements practical challenges (e.g., network lag, donated instrument maintenance issues).

4.2.3 Semi-Structured Student Interview Data

To capture micro-experiences, 30 students from 4 rural primary schools in Yi County, Xingtai (15 low-income, 15 middle-income) were purposively sampled. Interviews (20–30 minutes each, Mandarin with dialect interpretation) focused on: (1) music learning difficulties (equipment, family support, teacher quality); (2) expectations for improvement. All recordings were transcribed verbatim and anonymized (labeled "Student A/B") for ethics compliance.

4.3 Data Processing and Analysis Methods

4.3.1 Macro Data Analysis

Descriptive Statistics: Excel was used to calculate "non-subsistence disposable income" (disposable income - food/medical expenditure), showing only 35.6% of Hebei rural households' 2023 income was available for developmental consumption (including music education). Data visualization bar charts of data to compare "Hebei vs. national rural" art funds ratios in an attempt to suggest structural gaps.

Comparative Analysis: Cross-regional comparison (Hebei rural art funds 0.8% vs. national rural 1.2% in 2023) indicated weaker institutional support; cross-dimensional comparison (growth in Hebei rural education informatization funding 3.2% vs. national 5.8%) attributed lack of hardware to disruption of online classes (41% of Hebei rural classes disrupted, locally reported). Correlation Analysis: SPSS 26.0 calculated Pearson correlations between "non-subsistence income ratio"

(independent variable) and "art education funds ratio" (dependent variable), confirming positive correlation ($r = 0.32$, $p < 0.05$) and ensuring "economic capital → institutional capital" transmission.

4.3.2 Qualitative Data Analysis

Thematic Coding: NVivo 12.0 coded materials into three themes that are aligned with Bourdieu's theory:

Economic capital: "Can't afford instruments," "no home internet connectivity," "little art spending" (12/30 students responded with "family can't pay for a melodica");

Cultural capital: "Parents think music is not useful," "emphasis on exam courses" (21/30 students referenced parents like "Music won't be of any use in getting into high school");

Institutional capital: "Untrained music teachers," "outdated equipment" (18/30 students observed that music classes were taught by non-professionals).

Logical Integration: Qualitative themes were linked to macro data: e.g., "can't afford instruments" aligned with <0.3% rural art expenditure; "unqualified teachers" corresponded to Hebei's rural full-time music teacher ratio (1:890 vs. national 1:520).

4.4 Validity Assurance

1. Data Triangulation: Macro finance figures were validated with student lack of equipment report and policy papers to eliminate discrepancies;
2. Authoritative Sources: All macro data were taken from national/provincial bureaus; qualitative sources were from peer-reviewed journals and formal publications;
3. Rigorous Procedures: Variable causality was tested using correlation analysis; qualitative coding was 0.87 (over the 0.80 level) inter-coder reliability.
4. Mechanism Analysis: How SES Restricts Rural Music Education Access

Based on Bourdieu's Cultural Capital Theory and Hebei rural evidence, SES restricts quality music education access through three interrelated mechanisms of capital.

5.1 Economic Capital Constraint: Dual Scarcity of Household and Fiscal Resources

Poor rural households in China give priorities to subjects over music due to limited disposable incomes. Rural households in Yi County, Hebei (local low-income standard in 2021: < 6,000 yuan per capita annual income), spend over 60% of educational costs on Chinese, mathematics, and English tutorial lessons, while music-related spending is nearly zero (Zhao, 2022). Even 100-yuan

melodica is 0.6% of annual disposable income—a crazy cost for most poor households, with reliance on instruments donated.

Most notably, although the urban-rural income ratio in Hebei closed to 2.11 in 2023 (down 0.02 compared to last year), the educational resource allocation gap continued—faster-growing rural areas (e.g., 7.6% actual increase for rural and 5.7% for urban) continued to receive less funding for art education (China Economic Net, 2024). Such a mismatch indicates that local fiscal allocation fails to keep pace with the change in rural incomes, further deepening economic capital restrictions over music education.

Local budget deficit exacerbates it. Hebei rural primary school art education budgets accounted for only 0.8% of obligatory education budgets in 2023 (vs. national 1.2%), while music instrument expenditure accounted for <0.5% of "special project funds." This amounts to dilapidated music classrooms and limited network bandwidth: 41% of Hebei rural online music classes suffer interruptions from sluggish internet speeds, incapable of supporting high-definition live-streaming needs (Zhou et al., 2023).

5.2 Cultural Capital Constraint: Vicious Cycle of Parental Cognition and Student Interest

The "exam-oriented" cultural capital of rural families underestimates music education. Yan and Xu (2023) found rural Chinese families allocated 21.54% (senior high) and 33.04% (higher education) of education expenses to exam courses in 2018, while art expenses were only 11.25% (preschool) and 13.70% (primary). Poor families have larger expenditure elasticity: the poorer, the more they invest money in concentration towards exam tutoring (Yan & Xu, 2023).

Student awareness carries this influence over to behavior. Parental resistance to practice after class was reported by interviewed students: "My mom says practicing singing is a waste of time better spent on math homework" (Student C). Students eventually disengage—just 30% of interviewed students reported "willing to practice music after class," making the "parental devaluation → student disengagement" vicious cycle.

5.3 Institutional Capital Constraint: Shortages of Teachers and Infrastructure

Shortages in institutional capital limit music education supply. The full-time music teacher ratio in Hebei rural primary schools is 1:890 (2023), which is lower than the national rural 1:520. Part-time Chinese or PE teachers normally teach the majority of rural music classes: "Our music teacher is also the PE teacher; she just plays songs from a speaker and lets us sing along" (Student F).

Shortage of internet infrastructure further restricts web-based learning. The Hebei 2023 Rural Educational Informatization Report notes 35% of rural schools have internet bandwidth <10 Mbps—not sufficient to live-stream music class. Even with donated instruments, there is no funding to keep them in working order: "Many melodicas are broken, but we can't fix them" (Student H).

5.4 Mechanism Summary

SES constrains rural music education through a "triple capital chain reaction": economic capital scarcity limits hardware/internet access; cultural capital bias (exam-oriented attitudes) reduces participation willingness; institutional capital shortages weaken supply quality. This forms an "unfair closed loop"—online education, as a potential solution, must address all three links to achieve equity.

To empirically test the above SES constraint mechanisms and examine whether online education can alleviate them, this section analyzes a long-term online music education initiative launched in rural Hebei in 2021—this practice provides a real-world context to verify the effectiveness and limitations of addressing capital shortages through digital tools.

6. Discussion

6.1 Core Findings and Theoretical Dialogue

6.1.1 Alignment with Cultural Capital Theory

This study verifies Bourdieu's theory in non-core subject education: SES constrains rural music education through economic (hardware/internet), cultural (parental cognition), and institutional (teacher/infrastructure) capital—extending the theory's application beyond exam subjects. The "triple capital chain reaction" is the reason that music education equity in rural places is harder to achieve than fundamental subjects: it not only requires money investment but also cultural cognition transformation.

6.1.2 Contribution to Online Education Research

Following Martin et al. (2024), this study makes online education's equity dependent on "overcoming SES-related digital/hardware disparities." Contrary to optimistic global studies (Yang, 2021; Wang, 2022), it emphasizes rural China's specifics: online learning is not a solution for "low-income households' instrument unaffordability" or "exam-oriented cultural values"—complementing negative domestic online learning research agenda.

6.2 Practical Implications

1. Online learning needs to "be designed for targets": It should target institutional capital shortages (e.g., teacher training) while being mindful of its limitations in economic/cultural capital;
2. Avoid "technology determinism": Forcing online learning as a "panacea" for equity ignores structural SES constraints—policies must be multimodal, combining technology with capital compensation (e.g., instrument subsidies);
3. Localization is important: Adding rural cultural materials (e.g., Hebei folk songs) to courses can increase learner engagement, resolving cultural capital incompatibilities.

6.3 Research Limitations

1. Representativeness of Sample: Interviews only managed to reach 4 Yi County, Hebei schools—results may not be generalizable to mountain or wealthier rural areas;
2. Timeliness of Data: Some 2023 measures (e.g., levels of enrollment in music courses) utilized 2022 data, thereby possibly excluding the impact of post-2023 online education policy;
3. Gaps in Longitudinal: Cross-sectional data are unable to quantify long-term impacts (e.g., whether online music education raises students' cultural capital within 3–5 years).

6.4 Future Research Directions

1. Expand Sample Scope: Engage a few Hebei counties (plain/mountainous, high/low income) to analyze regional SES constraint differences;
2. Incorporate Longitudinal Tracking: Follow the participating students for 2–3 years to analyze long-term impacts on musical skills and cultural attitudes;
3. Explore Policy Synergy: Analyze how "government subsidies (economic capital) + parental training (cultural capital) + online education (institutional capital)" can collectively alleviate constraints.

7. Path Suggestions to Alleviate SES Constraints

Based on mechanism analysis and constraint of practice, this study recommends three-dimensional solutions targeting economic, cultural, and institutional capital with clear responsible subjects:

7.1 Supplement Institutional Capital: Policy-Driven Resource Allocation

7.1.1 Establish Special Funds for Rural Music Education

Measures: Hebei Provincial Department of Education would set up a "Rural Music Education Special Fund," which would cover at least 3% of rural compulsory education budgets each year.

Funds are allocated in the following order of priority: (1) upgrading remote village internet to ≥ 20 Mbps; (2) purchasing recyclable melodicas (1 per student) and maintaining donated instruments in good working condition; (3) training rural music teaching assistants (100 hours/year).

Incentives: Link fund-use effectiveness to performance evaluation of the local government (e.g., schools with $\geq 80\%$ students attending music are given additional subsidies) to avoid "fund idling."

7.1.2 Build an Urban-Rural Teacher Collaboration Mechanism

Measures: Require urban public school music teachers to take ≥ 20 hours of online rural training or 10 rural teacher training sessions annually. Add this experience as an optional additional item in professional title evaluation (e.g., 10% worth in senior title applications).

Platform Support: Create a provincial "rural-urban music teacher collaboration platform" where teaching materials (e.g., taped classes, sheet music) can be shared and online interactive communication can occur.

7.2 Alleviate Economic Capital: Public Welfare-Led Cost Reduction

7.2.3 Launch an "Instrument Recycling Program"

Measures: Cooperate with public welfare institutions (e.g., China Youth Development Foundation) to collect, repair, and recycle melodicas and other simple musical instruments. Schools will distribute the instruments to the students when a semester begins and collect them at the end of the semester for reuse—this measure relieves the burden on families to purchase musical instruments on their own.

Coverage: Roll out the program to 100% of Hebei rural primary schools by 2026, starting with low-income counties.

7.2.4 Provide "Digital Access Subsidies"

Measure: For disadvantaged rural students, offer monthly 50-yuan mobile data subsidies (for online class traffic) and weekend/holiday free computer use at school. Fund subsidies through a mix of government allocations and corporate donations.

To make sure that the subsidy is sufficient and focused, it is formulated in accordance with local rural digital consumption situations: According to 2023 statistics of People's Daily, Hebei migrant workers in rural areas paid an average of 30–40 yuan per month for mobile data used in basic communication; a 50-yuan subsidy can cover the excess traffic needed for weekly online music courses (estimated 1–2 GB per course), so low-income households are not charged extra for digital services.

To link with rural income trends, the subsidies can be linked with families' wage earnings: e.g., migrant worker families in rural districts (average monthly earnings around 4,780 yuan in 2023) can be given additional subsidies in exchange for spending part of their earnings on music instruction (e.g., rental fees for instruments). Meanwhile, making good use of the 2.0% rise in transfer net income (e.g., government poverty relief fund), local governments can invest a part of it into "music education vouchers" to reduce families' initial costs (China Economic Net, 2024; People's Daily, 2024).

7.3 Reconstruct Cultural Capital: School-Family-Community Collaboration

7.3.1 Organize "Music Cognition Improvement Activities"

Measures: Schools hold quarterly "Music Achievement Shows" (inviting parents to watch student online performances) and "Parent Music Workshops" (teaching basic music appreciation to change "music is useless" attitudes). Township cultural stations host annual "Rural Family Music Festivals" (e.g., dialect chorus competitions) to integrate music into rural life.

7.3.2 Promote "Beneficiary Case Sharing"

Measures: Invite rural students who benefited from online music education (e.g., those who joined school choirs) and their parents to share experiences at county-level education conferences. Use videos and testimonials to convey "music education's value in cultural capital accumulation"—breaking intergenerational cultural capital transmission barriers.

7.4 Optimize Online Education Model: Address Personalization and Localization

7.4.5 Adopt a "1+N" Hybrid Teaching Model

Measures: 1 urban music teacher conducts weekly online basic courses; N trained rural teaching assistants lead offline small-group tutoring (10–15 students/group). Design hierarchical tasks: basic group (rhythm practice), advanced group (complex melodies) to meet diverse needs.

7.4.6 Develop Localized Online Curricula

Measures: Cooperate with Hebei Normal University's music department to develop online courses integrating local folk music (e.g., "Yanzhao Folk Song Singing," "Hebei Clapper Opera Rhythm Training"). Include dialect versions of instruction materials to encourage cultural identity and motivation to join.

8. Conclusion

This essay examines SES's constraint on the access of rural China to quality music education and investigates online education's mitigating role through a case of Hebei. Key findings are:

1. SES constraint mechanism: SES regulates rural music education access through three nested capital forms—economic capital limits hardware/internet access, cultural capital incentivizes exam-facilitated devaluation of music, and institutional capital shortages erode quality of supply;
2. Online education's function: It can alleviate institutional capital shortages in part (e.g., teacher shortages) but cannot bypass economic and cultural capital limitations based on SES—its equity potential is limited by structural conditions;
3. Solution direction: Rural music education equity is tackled by "triple capital synergy": policy-guided institutional capital supports, public welfare-initiated economic capital restitution, and school-family-community collaboration to restore cultural capital.

Theoretical worth in this research lies in Bourdieu's Cultural Capital Theory being extended into non-core subject teaching; applied worth lies in providing a "targeted, multi-dimensional" rural online music teaching policy framework. Future research should extend samples and include longitudinal follow-up to further refine these findings.

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