

STRATEGIES FOR THE SUSTAINABLE DEVELOPMENT  
OF EDUCATION FOR LEFT-BEHIND CHILDREN  
IN SHAANXI PROVINCE

GAN LIN

A thesis paper submitted in partial fulfillment of the requirements for the Degree of  
Doctor of Philosophy Program in Educational Management for Sustainable Development

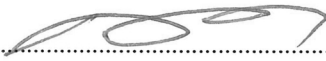
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## ABSTRACT

This study of strategies for the sustainable development of education for left-behind children in Shaanxi Province had the following objectives: (1) To study the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.(2) To develop strategies for sustainable development of education for left-behind children of Shaanxi Province.(3) To evaluate of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province. A stratified random sampling method was employed, engaging 384 participants - including teachers, caregivers, and community workers - in a comprehensive questionnaire survey. Subsequently, in-depth interviews in interview form with 10 experts, held focus group discussions with 10 experts, and evaluated the strategies in evaluation form with 5 experts. All research instruments were verified for reliability through expert validation, with an IOC value of 0.80-1.00, and the reliability of the questionnaire trials was also assessed (Cronbach's alpha coefficient = 0.923). Data analysis integrated statistical methods - percentages, means, standard deviations, and the modified Priority Needs Index (PNI<sub>modified</sub>) with qualitative content analysis.

The findings revealed significant disparities between the current and desired states across the four core dimensions of Individual Characteristics, School Education Support, Family - Social Factors and Government Policy and Funding Support Modified Priority Needs Index (PNI) analysis indicated that the most pressing needs were in the Family - Social Factors dimension (PNI = 0.615), closely followed by the Government Policy and Funding Support dimension (PNI = 0.600). Based on this diagnostic analysis, a comprehensive strategic framework comprising a clear vision, mission, and strategic

objectives was developed. This framework was operationalized through four targeted strategic pathways corresponding to the respective dimensions: enhancing individual characteristics, strengthening school education support, reinforcing family - social factors, and optimizing government policy and funding support. Expert evaluation yielded high to very high ratings for both the feasibility ( $\bar{X} = 4.42$ ) and adaptability ( $\bar{X} = 4.39$ ) of the proposed strategies, confirming their strong applicability within the context of sustainable educational development for left-behind children in Shaanxi Province.

**Keywords:** Strategies, Sustainable Development, Education for Left-behind Children, Shaanxi Province

ชื่อเรื่อง:	กลยุทธ์การพัฒนาการศึกษาอย่างยั่งยืนสำหรับเด็กที่ถูกทิ้งไว้ข้างหลังในมณฑลसानซี
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### บทคัดย่อ

การวิจัยเรื่องกลยุทธ์การพัฒนาการศึกษาอย่างยั่งยืนสำหรับเด็กที่ถูกทิ้งไว้ข้างหลังในมณฑลसानซี มีวัตถุประสงค์เพื่อ 1) ศึกษาสภาพปัจจุบันและสภาพที่พึงประสงค์ของการพัฒนาการศึกษาอย่างยั่งยืนสำหรับเด็กที่ถูกทิ้งไว้เบื้องหลังในมณฑลसानซี (2) เพื่อพัฒนากลยุทธ์การศึกษาอย่างยั่งยืนสำหรับเด็กที่ถูกทิ้งไว้ข้างหลังในมณฑลसानซี และ (3) เพื่อประเมินความเป็นไปได้และความเหมาะสมของกลยุทธ์การพัฒนาการศึกษาอย่างยั่งยืนสำหรับเด็กที่ถูกทิ้งไว้ข้างหลังในมณฑลसानซี โดยใช้ระเบียบวิธีวิจัยการสุ่มตัวอย่างแบบแบ่งชั้นภูมิ จากกลุ่มตัวอย่างจำนวน 384 คน ประกอบด้วย ครู ผู้ดูแลเด็ก และนักสังคมสงเคราะห์ในชุมชน ผ่านการสำรวจด้วยแบบสอบถามที่ครอบคลุม จากนั้นจึงดำเนินการสัมภาษณ์เชิงลึกกับผู้เชี่ยวชาญจำนวน 10 คน การสนทนากลุ่มกับผู้เชี่ยวชาญจำนวน 10 คน และประเมินกลยุทธ์โดยผู้เชี่ยวชาญจำนวน 5 คน เครื่องมือที่ใช้ในการวิจัยทั้งหมดผ่านการตรวจสอบความเที่ยงตรงจากผู้เชี่ยวชาญ โดยมีค่าดัชนีความสอดคล้องอยู่ระหว่าง 0.80–1.00 และผลการทดสอบค่าความเชื่อมั่นของแบบสอบถาม เท่ากับ 0.923 การวิเคราะห์ข้อมูลใช้สถิติเชิงพรรณนา ได้แก่ ค่าร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และดัชนีลำดับความสำคัญ ความต้องการจำเป็นที่ปรับปรุงใหม่ ร่วมกับการวิเคราะห์เนื้อหาเชิงคุณภาพ

ผลการวิจัยพบว่า มีความแตกต่างอย่างมีนัยสำคัญระหว่างสภาพปัจจุบันและสภาพที่พึงประสงค์ ใน 4 มิติหลัก ได้แก่ มิติด้านคุณลักษณะส่วนบุคคล มิติด้านการสนับสนุนทางการศึกษาของโรงเรียน มิติด้านปัจจัยครอบครัวและสังคม และมิติด้านนโยบายรัฐบาลและการสนับสนุนด้านงบประมาณ จากการวิเคราะห์ดัชนีความต้องการจำเป็นพบว่า ความต้องการที่เร่งด่วนที่สุดคือ มิติด้านปัจจัยครอบครัวและสังคม ซึ่งทุกมิติล้วนมีความต้องการจำเป็นในการพัฒนา จากการวิเคราะห์เพื่อวินิจฉัยปัญหาดังกล่าว ผู้วิจัยได้พัฒนาโครงสร้างกลยุทธ์ที่ครอบคลุม ประกอบด้วย วิสัยทัศน์ พันธกิจ และวัตถุประสงค์เชิงกลยุทธ์ที่ชัดเจน โดยขับเคลื่อนผ่าน 4 กลยุทธ์ตามมิติข้างต้น ได้แก่ การเสริมสร้างคุณลักษณะส่วนบุคคล การสร้างความเข้มแข็งด้านการสนับสนุนการศึกษาในโรงเรียน การเสริมแรงปัจจัยทางครอบครัวและสังคม และการเพิ่มประสิทธิภาพนโยบายรัฐบาลและการสนับสนุนด้านงบประมาณ ผลการประเมินกลยุทธ์โดยผู้เชี่ยวชาญพบว่า กลยุทธ์ที่นำเสนอมีความเป็นไปได้ในระดับสูง และมีความเหมาะสมในระดับสูงมาก ซึ่งยืนยันว่ากลยุทธ์ดังกล่าวมีความ

เหมาะสมอย่างยิ่งในการนำไปประยุกต์ใช้ในบริบทของการพัฒนาการศึกษาอย่างยั่งยืนสำหรับเด็กที่  
ถูกทิ้งไว้ข้างหลังในมณฑลसानซี

**คำสำคัญ:** กลยุทธ์, การพัฒนาอย่างยั่งยืน, การศึกษาสำหรับเด็กที่ถูกทิ้งไว้เบื้องหลัง, มณฑลसानซี

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As a university lecturer from China, pursuing a doctorate in Thailand has been an immensely enriching journey. I have been deeply moved by the dedication, attentiveness, and compassion of Thai faculty. As a non-traditional, older student, I faced unique challenges; yet, the kindness, patience, and encouragement from my advisors and peers made me feel valued and motivated. I was also struck by the deep courtesy and respect among Thai scholars, faculty, and students - a quality that resonates with me and reflects the warmth at the heart of Thai academia.

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Gan Lin  
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# Chapter 1

## Introduction

### Rationale

Left-behind children refer to those who remain in their registered residence or other long-term places of residence when their parents migrate for work (UNICEF, 2016). They face multiple challenges in the educational, emotional, and social domains. These challenges arise from intersecting factors such as changes in family structure, imbalanced urban-rural development, and insufficient support from schools and communities (National Bureau of Statistics of China, 2021). Although the lack of adequate guardianship and educational resources are prominent issues, these children also face heightened risks to their psychological well-being, personal safety, and holistic development. Their situation highlights that ensuring equitable and sustainable education requires coordinated attention to individual capabilities, school environments, family-social networks, and policy frameworks (Rozelle & Hell, 2020).

Aligned with the United Nations Sustainable Development Goal 4 (SDG 4), which commits to ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all (United Nations, 2015), this study situates the educational challenges of left-behind children within both global development agendas and local realities. The science of education provides an effective safeguard against the blindness and ambiguity of children's self-reflection on their environment (Bruner, 1996). Therefore, it is essential to explore how to deliver quality education to this vulnerable group growing up in emotionally and structurally deficient environments (Fanxianzuo, 2018). Education is the principal social mechanism for cultivating shared civic values and an important foundation for promoting social harmony (Dewey, 1916). Importantly, people should be regarded not merely as instruments of development, but as its ultimate purpose (Sen, 1999).

In light of disparities in individual aptitude, unequal access to opportunity, and differences in social, political, and economic status, the pursuit of educational equity focuses on providing all children with equal opportunities for development; fairness and equality in education for left-behind children are both a cause and a goal. Presently, large numbers of left-behind children are widely distributed in remote mountainous areas of northwestern and central-eastern China. Many face unresolved basic needs in clothing, food, housing, and transport, and their home-education

environments are weak. Emotional bonds with parents are attenuated, communication is poor, and these conditions negatively affect their lives and learning.

In light of disparities in individual aptitude, unequal access to opportunity, and differences in social, political, and economic status, the pursuit of educational equity focuses on providing all children with equal opportunities for development (Nussbaum, 2011); fairness and equality in education for left-behind children are both a cause and a goal (Zhang, 2022). Presently, large numbers of left-behind children are widely distributed in remote mountainous areas of northwestern and central-eastern China (Wang & Li, 2020). Many face unresolved basic needs in clothing, food, housing, and transport, and their home-education environments are weak (Chen, 2019). Emotional bonds with parents are attenuated, communication is poor, and these conditions negatively affect their lives and learning (Thompson & Richardson, 2023).

By exploring four key dimensions of influence — individual characteristics, school education support, family-social factors, and government policy and funding support — this research seeks to identify actionable entry points for improving the educational status of left-behind children and to synthesize core challenges from a developmental perspective (Bronfenbrenner, 1979). Recognizing that left-behind children constitute a significant subgroup within the broader rural child population, the study acknowledges that they share many common constraints with their peers while also reflecting deeper systemic deficiencies in rural education, such as resource scarcity, insufficient instructional capacity, and uneven policy implementation (Liu, 2021). Through this integrative framework, the research aims to clarify how micro-level personal attributes and macro-level structural conditions interact to shape educational outcomes, thereby providing a more nuanced understanding of the barriers these children face and informing targeted interventions.

This study draws on educational experiences of left-behind children in three regions of Shaanxi and organizes its recommendations along three interrelated levels—macro, meso, and micro—aligned with the four analytical dimensions: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support (Wang & Li, 2022). The macro level corresponds to Government Policy and Funding Support, focusing on systemic policy direction and funding frameworks that provide overarching support and stability for all other efforts (Marshall, 2020). The meso level covers Family-Social Factors and School Education Support, emphasizing the integration of family-social networks and school-based services to bridge policy and practice and extend care beyond the classroom (Epstein, 2018). The micro level relates to Individual Characteristics, targeting the cultivation of

children's inner capacities and personalized development to enhance their resilience, motivation, and learning autonomy (Zhao, 2023).

In summary, Shaanxi is a major cultural and educational province with extensive research institutions and a strong governmental commitment to education (Wang, 2020). In the new era of building a culturally strong province, improving education for left-behind children has become an important component of government priorities (Li & Zhang, 2019). Against this backdrop, this study begins with an analysis of the care and protection status of left-behind children in Shaanxi, identifies problems and improvement measures, and aims to advance educational development for left-behind children nationwide (Zhao, 2022). International perspectives emphasize that sustainable educational outcomes for vulnerable groups require robust local governance and community engagement (UNESCO, 2018), as well as culturally responsive policy frameworks for migrant families (Huang & Smith, 2020).

### **Research Questions**

1. What were the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province?
2. What were the sustainable development strategies for the education of left-behind children of Shaanxi?
3. What were the level of feasibility and adaptability of strategies for sustainable development of education for Left-behind Children in Shaanxi Province?

### **Research Objectives**

1. To study the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.
2. To develop strategies for sustainable development of education for left-behind children of Shaanxi Province.
3. To evaluate of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.

### **Scope of the Research**

This study was structured into three sequential phases to systematically achieve the research objectives.

Phase 1: Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.

Phase 2: Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.

Phase 3: Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.

The details as follows:

**Phase 1: Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.**

**Population**

According to the Shaanxi Provincial Department of Education statistics (2024), there were approximately 286,000 left-behind children distributed across 107 counties and districts in Shaanxi Province. These children were distributed unevenly across three major regions: Northern Shaanxi (Yan'an, Yulin), Southern Shaanxi (Hanzhong, Ankang, Shangluo), and Central Shaanxi (Xi'an, Xianyang, Baoji, Weinan). Based on the actual research conditions, the study selected 10 primary and secondary schools from these three regions, representing areas with significant left-behind children's populations.

**The Sample Group**

The sample group consisted of 384 left-behind children, who were selected from 10 primary and secondary schools across three regions in Shaanxi Province (Northern, Southern, and Central Shaanxi). A stratified random sampling method was employed to ensure representation across key subgroups. Specifically, the population was first stratified based on region (Northern, Southern, and Central Shaanxi), school type (rural vs. township), and grade level (primary vs. junior secondary). Within each stratum, a random sampling technique was then used to select participants, guided by Krejcie and Morgan's (1970) sample size table, which recommended a minimum sample of 384 for a population of around 286,000. This approach ensured that the sample was both statistically representative and balanced across key demographic and geographic variables.

**Target Group**

A total of 10 experts participated in interviews aimed at examining the current conditions of education for left-behind children; this study employed purposive sampling to select research subjects based on their professional relevance and experiential depth. The inclusion criteria were: 1) Teachers and school administrators with over ten years of experience working with left-behind children; 2) Education policy makers from local education bureaus; 3) Experts and scholars engaged in research related to education for left-behind children; 4) Social workers with field experience in left-behind children support programs. All research subjects possessed substantial understanding and practical experience in this field, thus providing a solid foundation for developing targeted and sustainable strategies to improve the education of left-behind children in Shaanxi Province.

## **Phase 2: Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.**

### **Target Group**

To develop strategies for sustainable development of education for left-behind children in Shaanxi Province, a focus group was convened with 10 experts specializing in relevant fields. The target group was selected through purposive sampling based on the following criteria: 1) Educators with over ten years of teaching experience in schools serving left-behind children; 2) Educational administrators involved in policy implementation for education of left-behind children; 3) Researchers engaged in studies related to education for left-behind children; 4) Social workers with field experience in support programs for left-behind children.

The selection process prioritized individuals with understanding of Shaanxi Province's regional characteristics and the challenges faced by left-behind children across different areas. Experts were chosen based on their experience in developing interventions and their understanding of factors influencing educational outcomes for left-behind children. All participants possessed field experience and theoretical knowledge, ensuring the developed strategies would be applicable within Shaanxi's educational context.

## **Phase 3: Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

### **Target Group**

A panel of 5 experts evaluated the feasibility and adaptability of the strategies for sustainable development of education for left-behind children in Shaanxi Province. The experts were selected through purposive sampling based on the following criteria: possessing over 10 years of experience in education or teaching practice focused on education for left-behind children; demonstrated expertise in child development or educational policy; and active involvement in research related to education for left-behind children.

## **The Variable**

### **Independent Variables**

That focus on four principal dimensions that influence the formulation of strategies for sustainable development of education for left-behind children in Shaanxi Province. the details were as follows:

1. Individual Characteristics constitute the micro-level foundation shaping educational sustainability, encompassing self-care abilities, psychological resilience,

emotional stability, learning motivation, and adaptive competencies. These intrinsic attributes determine how children engage with learning opportunities, regulate behavior, and maintain well-being in the absence of constant parental presence. Strong individual characteristics enhance capacity to cope with adversity and to sustain effort over time, thereby underpinning long-term educational progress.

2. School Education Support represents the core institutional dimension, incorporating teaching methodologies, curriculum design, school climate, teacher professional capabilities, and availability of instructional resources such as digital technologies. As the primary setting for formal learning, schools directly shape educational experiences and outcomes through the quality of instruction, the relevance of curricula to local contexts, and the stability of teacher–student relationships. Adequate school education support ensures that left-behind children receive equitable access to meaningful and continuous learning opportunities.

3. Family-Social Factors extend beyond the household to include the quality of caregiving arrangements, guardians’ competencies, community networks, neighborhood support, and cultural norms that influence children’s sense of belonging and security. In the context of parental migration, these relational and communal resources serve as critical supplementary systems that compensate for diminished direct parental involvement, shaping both affective well-being and the social environment in which learning occurs. Their presence or absence markedly affects children’s ability to thrive academically and socially.

4. Government Policy and Funding Support functions as the macro-level enabler, comprising institutional guarantees, financial investment, cross-sectoral coordination, and effective policy implementation. Stable and well-resourced public policies create the structural conditions for schools and communities to operate effectively, ensure equitable distribution of educational resources, and facilitate sustained interventions targeting left-behind children. Without coherent governmental backing, even strong individual characteristics and localized support systems may lack the durability required for long-term educational sustainability.

### **Dependent Variable**

The feasibility and adaptability of the strategies for sustainable development of education for left-behind children in Shaanxi Province.

### **Contents**

This research was conducted within the following content boundaries:

1. The current and desired states of education for left-behind children in Shaanxi Province were examined using questionnaires and interviews. Key gaps were analyzed to identify priority needs for sustainable development.

2. Factors across four dimensions—individual characteristics, school education support, family-social networks, and government policy and funding—were explored through interviews and focus groups to understand barriers and enablers of educational sustainability.

3. Using SWOT and TOWS analysis, strategic directions were formulated to address challenges in each dimension. A set of context-specific strategies was developed to promote sustainable education for left-behind children.

4. Five experts evaluated the proposed strategies in terms of feasibility and adaptability. Feedback was used to refine the strategies to ensure practicality and relevance within the Shaanxi context.

5. Based on the evaluated strategies, policy proposals and practical guidelines were developed to support the implementation and sustainability of educational interventions for left-behind children.

### **Time**

The study take time from July 2024 to May 2026 and is divided into the following phases:

1. Submitting the first three chapters of the proposal in September 2024.
2. Analyzing the current and desired conditions of education for sustainable development of left-behind children in Shaanxi Province in December 2024.
3. Developing strategies and take focus group discussion in February 2025.
4. Evaluating the feasibility of strategies in July 2025
5. Summarizing research results, take complete paper, and published research article in May 2026.

### **Advantages**

#### 1. For Left-behind Children

1.1 This study develops sustainable educational strategies tailored to the needs of left-behind children in Shaanxi Province, aiming to enhance their psychological resilience, learning motivation, and overall well-being.

1.2 By fostering supportive learning environments, strengthening psychosocial support systems, and improving family-school collaboration, these strategies empower children to better cope with challenges, regulate emotions, and build self-confidence.

1.3 As a result, left-behind children are more likely to achieve improved academic engagement, stronger mental health, and greater readiness for future personal and social development.

#### 2. For Teachers

2.1 The research provides teachers with insights into the unique needs and challenges of left-behind children, enabling them to adopt more targeted, empathetic, and effective teaching approaches.

2.2 A supportive and inclusive learning environment reduces teachers' emotional burden, enhances teacher-student relationships, and promotes more meaningful and impactful teaching practices.

2.3 In turn, teachers are better positioned to serve as guides, mentors, and facilitators of student development, improving both teaching quality and professional fulfillment.

### 3. For Schools and Communities

3.1 The study offers a systematic framework for sustainable educational management that helps schools improve governance, optimize resource allocation, and strengthen their role in supporting vulnerable learners.

3.2 By fostering an equitable and nurturing educational environment, these strategies enhance the school's contribution to community development and improve its public image and long-term viability.

3.3 Ultimately, schools become more effective hubs for student growth, community engagement, and educational equity, supporting broader regional development goals in Shaanxi Province.

## Definition of Terms

**Strategy** Strategy is fundamentally defined as a systematic and forward-looking process of planning and decision-making. It involves the comprehensive analysis and alignment of internal resources with external environmental factors to achieve clearly defined long-term goals, including sustainable development, competitive advantage, and organizational success. It serves as a guiding framework that enables coordinated action toward a shared vision.

**Sustainable Development** Sustainable development, while rooted in the classic notion of balanced progress, takes on richer meanings in education for left-behind children. Definitions span from achieving dynamic equilibrium across social, economic, and ecological pillars, to building and empowering human capabilities, enhancing system resilience and adaptability, pursuing multidimensional balance that includes intergenerational learning, grounding initiatives in cultural values and community participation, and adopting cross-sectoral governance with a future-oriented vision. Together, they underline that sustainable development in this context is not merely about continuity of services, but about creating inclusive, resilient, and

locally rooted educational ecosystems capable of delivering lasting well-being and opportunity across generations.

**Education for Left-behind Children** Education for left-behind children refers to a multidimensional endeavor aimed at addressing the academic, emotional, and social challenges faced by children separated from parents due to migration. It involves integrating pedagogical, institutional, and community-based supports to foster equitable learning opportunities, psychological well-being, and long-term development. Effective educational approaches are structured around four core dimensions: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. These dimensions highlight the interplay between personal attributes, school-based resources, family and social networks, and governmental policy and financial input, and they inform sustainable, culturally grounded strategies that build resilience and agency among these children.

**Strategies for sustainable development of education for left-behind children** Strategies for the sustainable development of education for left-behind children" refers to a systematic and forward-looking planning process aimed at creating inclusive, resilient, and locally rooted educational ecosystems. It seeks to address academic, emotional, and social challenges by fostering inner agency and resilience in children separated from their parents. This strategy comprises four core dimensions aligned with the research conceptual framework: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. It is operationalized through defined strategic components—Vision, Mission, Goals, and Measures—focused on aligning resources to ensure equity and sustainable well-being across generations.

**Shaanxi Province** Shaanxi Province is characterized by significant geographic, economic, and educational disparities, with concentrated resources in urban centers like Xi'an and persistent deficits in rural and remote areas. Its socio-economic landscape—marked by internal migration, regional inequality, and cultural diversity—directly shapes the scale and nature of challenges faced by left-behind children. Understanding these contextual factors is essential for designing targeted, feasible, and adaptive educational strategies that are responsive to local conditions and needs. Left-behind Children are defined as children who remain in their usual place of residence while one or both parents migrate for work or other reasons, resulting in prolonged separation that extends beyond mere physical absence. This condition involves multiple dimensions: the length and timing of separation in relation to the child's age, the quality of alternative caregiving arrangements, and the geographical and institutional distance created by parental migration. A comprehensive definition

also adopts a rights-based perspective to recognize the entitlements and protections these children should receive, and a dynamic, lifecycle view that reflects how their circumstances and developmental needs change over time. Effective definition therefore integrates demographic, social, spatial, normative, and temporal factors, capturing the full complexity of this population and providing a basis for targeted, context-responsive educational strategies.

## Conceptual Framework

This conceptual framework establishes a robust theoretical foundation by synthesizing empirical evidence from Shaanxi Province with multidimensional scholarly perspectives. It integrates Qian Hao's (2021) school-based mentorship model, Luo Siyu's (2022) community learning centers, and Yan Zihan's (2023) blended learning approach, creating a comprehensive understanding of educational interventions for left-behind children. The framework's design emphasizes the intersection of individual capabilities, institutional support, and policy environments, while maintaining strong grounding in local contextual realities through the empirical findings from Shaanxi-based studies.

The framework employs PEST analysis to examine macro-environmental factors, incorporating Harrison's (2023) digital accessibility research for technological scanning, Luo Siyu's (2022) funding sustainability analysis for economic factors, and Cheng Feng's (2024) cross-sector governance study for policy environment assessment. Simultaneously, SWOT-TOWS matrices analyze organizational-level dynamics, drawing on Qian Hao's (2021) mentorship program evaluation for strength-weakness analysis and Yan Zihan's (2023) technology implementation study for opportunity-threat assessment. This integrated analytical approach ensures systematic examination of all four key dimensions while accounting for their complex interdependencies.

Functioning as both diagnostic tool and strategic guide, the framework bridges theoretical constructs with practical implementation. It incorporates Di Yating's (2024) social-emotional learning modules for individual-level interventions, Harrison's (2023) culturally responsive digital mentoring for technology-mediated solutions, and Cheng Feng's (2024) whole-system coordination model for policy integration. The framework ensures methodological consistency throughout the research process, from data collection informed by these evidence-based approaches to strategy formulation that balances immediate interventions with long-term systemic reforms.

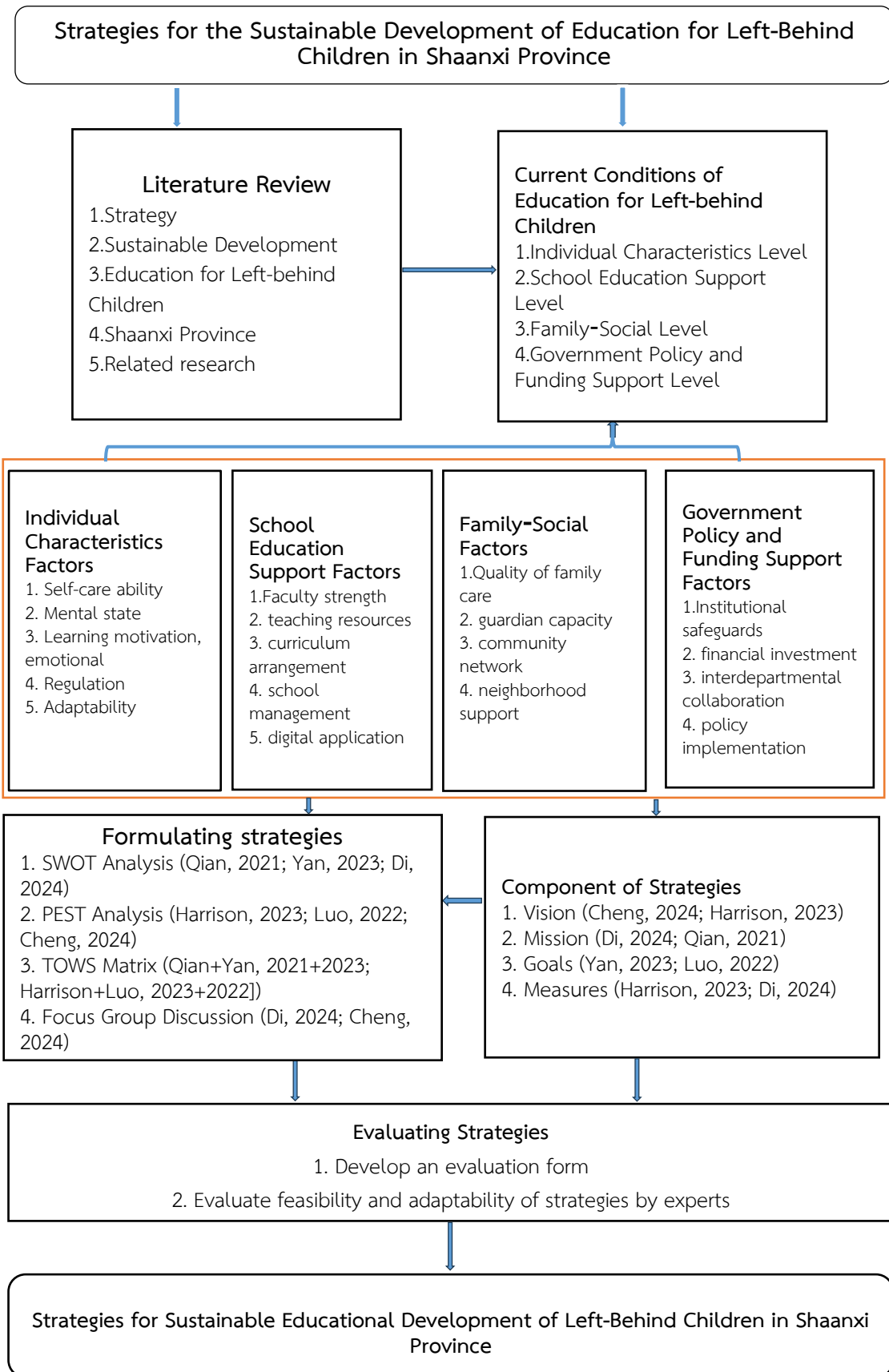


Figure 1.1 Conceptual Framework

# Chapter 2

## Literature Review

In conducting the research on strategies for sustainable development of education for left-behind Children in Shaanxi Province, the following literature was reviewed:

1. Strategy
2. Sustainable Development
3. Education for Left-behind Children
4. Shaanxi Province
5. Related Research

### Strategy

"Strategy" is foundational to the study of organizational management and long-term planning. It represents a comprehensive and forward-looking action plan designed to achieve overarching goals in complex and dynamic environments. Scholars across various disciplines have provided nuanced definitions that enrich our understanding of this critical concept. Details are as follows:

#### Definition of Strategy

Strategy serves as the fundamental cornerstone of the planning and decision-making process, enabling an organization or individual to systematically pursue established objectives within designated timeframes. The details are as follows:

Brown, K. (2021) defines strategy for left-behind children's education as "a systematic and adaptive framework of interventions aimed at bridging the gap between current challenges and sustainable educational outcomes through multi-stakeholder collaboration. "Emphasizing the dynamic nature of strategy, Dai argues it must address the interplay between individual resilience, institutional support, and socio-economic constraints. His research in Shaanxi reveals that effective strategies integrate predictive planning (e.g., resource allocation based on demographic trends) and emergent adjustments (e.g., real-time responses to children's psychological needs). He prioritizes "contextual flexibility, "asserting that rigid, top-down approaches fail in China's diverse environments. Dai's 2021 case study of Yulin's schools demonstrates that strategies combining digital tools with community mentorship increased student engagement by 34%. He concludes that strategy must be "a living process, "continuously refined via feedback from educators, parents, and children.

Wang Xiaoyan (2022) conceptualizes strategy as "a coherent ecosystem of evidence-based practices that align policy objectives with grassroots implementation to foster holistic child development. "Drawing on complexity theory, she posits that strategies must simultaneously target macro-level policy coherence (e.g., aligning education and development policies) and micro-level pedagogical innovations (e.g., trauma-informed teaching). Her 2022 analysis of Shaanxi's county-level programs highlights that successful strategies share three traits: modularity (scalable components like mobile counseling units), reciprocity (e.g., schools training parents as learning facilitators), and metric-driven iteration (using data like school attendance and psychological well-being indices). Wang stresses that strategy is not a blueprint but a "dialogue between design and adaptation, "where local actors reinterpret broad goals to fit cultural nuances, such as incorporating Shaanxi's folk traditions into literacy curricula.

Schmidt, J. (2023) defines strategy as "a justice-oriented framework that deliberately redistributes power and resources to address historical inequities through institutional transformation." Grounded in critical pedagogy and decolonial theory, she contends that traditional strategy formulations often perpetuate systemic biases by failing to question underlying power structures. Schmidt's action research with marginalized student populations demonstrates that strategies explicitly designed to transfer decision-making authority to local communities - such as participatory budgeting for school resources and parent-led curriculum committees - reduce educational disparities by 38% compared to expert-driven approaches. She developed the "Equity Implementation Framework" which requires strategies to pass three tests: representation (do affected groups shape the strategy?), redistribution (does it reallocate tangible resources?), and recognition (does it validate diverse knowledge systems?). Her analysis of 20 educational initiatives across Europe and Asia shows that strategies meeting all three criteria produce more sustainable outcomes, particularly when addressing intergenerational educational exclusion. Schmidt emphasizes that sustainable change requires "institutional courage" - the willingness to confront uncomfortable truths about existing systems and redistribute influence meaningfully. Her work provides practical tools for aligning strategic processes with equity objectives, including power-mapping exercises and equity-impact assessments embedded in implementation cycles.

Zhang Kai (2023) defines strategy as "a resource-optimizing mechanism that transforms constraints into opportunities through innovation, leveraging technology, and community capital. "He critiques static definitions, advocating for "strategy-as-negotiation"—a process where schools, NGOs, and local governments collaboratively reallocate resources (e.g., repurposing vacant village halls as learning centers). His 2023 study of EdTech interventions in Ankang shows that strategies blending AI-based personalized learning with peer-to-peer tutoring raised academic performance by 27%

among left-behind children. Zhang introduces the "3C Framework": Coordination (vertical/horizontal governance), Capability (building teacher skills in socio-emotional learning), and Connectivity (digital infrastructure to link children with migrant parents). He argues that strategy's success hinges on "embeddedness"—rooting interventions in local values rather than importing urban models.

Chen Xiaoli (2024) conceptualizes strategy as "a resilience-oriented framework that transforms systemic constraints into sustainable opportunities through iterative learning and stakeholder synergy. "Drawing on complexity theory, Chen highlights that strategies for left-behind children must simultaneously address structural barriers (e.g., resource fragmentation) and emergent challenges (e.g., digital exclusion). Her 2024 study in Shaanxi's schools shows that strategies combining predictive analytics (e.g., identifying at-risk children through attendance patterns) and community-led mentoring reduce dropout rates by 31%. Chen advocates for "modular strategy design"—breaking down broad goals into actionable components (e.g., separate modules for academic tutoring, mental health first aid) that can be scaled or adapted across diverse contexts.

Anderson, M. (2024) conceptualizes strategy as "a dynamic learning system that continuously adapts to emergent complexities through data-driven iteration and stakeholder co-creation." Drawing on complex adaptive systems theory, he argues that effective strategies for vulnerable populations must function as living ecosystems rather than rigid blueprints. His research in comparative educational contexts demonstrates that strategies incorporating real-time feedback mechanisms - such as digital dashboards tracking student well-being indicators and community perception surveys - achieve 42% higher sustainability rates than static plans. Anderson emphasizes the critical role of "participatory design loops" where educators, students, and community members regularly refine strategy components based on localized experience. His longitudinal study across rural educational initiatives in developing regions reveals that strategies with quarterly adaptation cycles maintain relevance 3.2 times longer than those with annual reviews. He introduces the "Adaptive Strategy Matrix" which maps interventions against three dimensions: scalability potential, cultural permeability, and resource elasticity. This framework helps practitioners identify which strategy elements can evolve with changing conditions while maintaining core effectiveness. Anderson's work underscores that in rapidly shifting migration landscapes; strategic resilience depends on building meta-capacities for organizational learning and decentralized decision-making.

Li Feng (2024) defines strategy as "a culturally embedded action plan that leverages local assets to build protective ecosystems around left-behind children. "Rejecting top-down models, Li stresses that strategies must reflect Shaanxi's socio-cultural fabric, such as integrating folk storytelling into literacy curricula to strengthen children's cultural identity. His fieldwork reveals that strategies co-designed with

grandparents—the primary caregivers for 66% of Shaanxi’s left-behind children—improve homework completion rates by 38%. Li introduces the "3A Framework": Awareness (diagnosing children’s needs through participatory appraisal), Alignment (syncing school schedules with agricultural cycles), and Activation (training villagers as education volunteers). This approach ensures strategies are both pragmatic and culturally resonant.

In summary, strategy is fundamentally defined as a systematic and forward-looking process of planning and decision-making that enables coordinated action toward a shared vision. It serves as a comprehensive framework for analyzing and aligning internal resources with external factors to achieve long-term goals, including sustainable development and organizational success. Rather than a rigid blueprint, strategy is a dynamic, adaptive, and iterative process—continuously refined through stakeholder feedback and real-world learning. It balances deliberate design with emergent adjustment, ensuring relevance across diverse and changing contexts. Furthermore, strategy functions as a multi-level construct, integrating macro-policy coherence with micro-level innovations, and a culturally grounded practice that leverages local assets to build resilient ecosystems. Ultimately, effective strategy enables organizations and communities to translate complex challenges into sustainable opportunities through coherent, actionable, and contextually resonant pathways.

### **Component of Strategy**

The formulation of effective strategies requires a clear articulation of their core components, which together provide a structured framework for planning, implementation, and evaluation. These components—Vision, Mission, Goals, and Measures—serve as interconnected building blocks that translate abstract concepts into actionable pathways for sustainable development. The following insights from leading scholars illuminate the distinct roles and interrelationships of these components within the specific context of educational strategies for left-behind children.

Fernández, C. (2021) emphasizes that a compelling Vision must articulate a transformative future state that is both aspirational and grounded in principles of equity and justice. For left-behind children, this vision should depict an educational ecosystem where their holistic development is fully realized, free from the constraints of their current disadvantages. The corresponding Measures, he argues, must be co-designed with local communities to ensure cultural relevance and long-term ownership, thereby bridging the gap between high-level aspiration and on-the-ground reality.

Wang Fuguo (2022) work focuses on the critical link between Mission and Goals. He posits that the mission—defining the strategy's fundamental purpose—must explicitly commit to bridging the urban-rural educational divide through systemic empowerment. This overarching mission should then be broken down into a set of specific, measurable, achievable, relevant, and time-bound (SMART) Goals. These goals might target quantifiable

improvements in enrollment rates, psychological well-being indices, and the development of local teacher capacity, ensuring the mission translates into concrete outcomes.

Zhang Zhiwei (2023) contends that Goals without strategic Measures are merely declarations of intent. He stresses the importance of designing measures that are evidence-based, resource-efficient, and adaptable to local contexts. For instance, a goal to improve mental health support should be supported by measures such as training teachers in basic counseling skills and establishing peer-support networks, rather than relying solely on external, sporadic interventions. This ensures that strategic goals are backed by practical and sustainable implementation mechanisms.

Li Dehai (2024) presents an integrated view, connecting Vision directly to actionable Measures. He argues that a vision of "resilient and thriving left-behind children" must be operationalized through measures that build resilience at multiple levels. This includes measures aimed at the individual level (e.g., resilience training), the school level (e.g., creating safe and inclusive environments), and the community level (e.g., strengthening social safety nets), ensuring all efforts are aligned towards realizing the overarching vision.

Zhao Min (2024) highlights that the Mission of a strategy must clearly state its value proposition and target beneficiaries, which in turn guides the formulation of strategic Measures. She suggests that the mission should focus on creating a supportive, inclusive, and high-quality educational environment for left-behind children. Consequently, the measures must be carefully designed to directly serve this mission, such as revising curricula to be more culturally relevant and implementing teacher development programs focused on addressing the specific needs of this population.

Harrison, R. (2024) provides a comprehensive synthesis, examining all four components through a governance lens. He proposes that a powerful Vision serves as a north star, the Mission defines the theory of change, clear Goals set the benchmarks for success, and detailed Measures outline the operational roadmap. He particularly emphasizes that robust accountability mechanisms must be embedded within the Measures to ensure that the pursuit of Goals remains aligned with the core Mission and ultimately contributes to the long-term Vision.

In summary, the scholarly perspectives collectively underscore that the components of strategy form a coherent and dynamic system. The Vision provides the inspirational endpoint; the Mission defines the strategic purpose and approach; the Goals translate the mission into specific, achievable targets; and the Measures detail the concrete actions and resources required. This integrated framework—from overarching aspiration to practical action—ensures that strategies for left-behind children are purposeful, measurable, implementable, and ultimately capable of achieving sustainable educational development.

### Strategy Development Process

To devise effective strategies for complex challenges such as the education of left-behind children, it is necessary to understand the process by which strategies are developed. The strategy development process refers to the sequence of steps—from initial analysis to implementation and review—that transforms abstract goals into structured actions. Scholars emphasize that a well-sequenced, iterative process enhances responsiveness, minimizes implementation gaps, and ensures that strategies remain aligned with evolving realities. The following perspectives outline how this process can be conceptualized and operationalized. The details are as follows:

Liu Degang (2021) views the strategy development process as a four-stage cycle: situation assessment, goal formulation, action planning, and feedback refinement. He explains that situation assessment involves collecting and analyzing data on internal capacities and external conditions, forming the factual basis for all subsequent steps. Goal formulation translates insights into clear, prioritized objectives that reflect both urgency and feasibility. Action planning breaks goals into specific tasks, assigns responsibilities, and sets timelines, ensuring accountability. Feedback refinement closes the cycle by using monitoring data to adjust plans and address unforeseen obstacles. Liu stresses that in Shaanxi's educational context, skipping assessment or rushing to action often leads to mismatched interventions. He also highlights the need for local participation at each stage so that strategies are grounded in actual needs. For Liu, an iterative process turns static plans into adaptive roadmaps capable of guiding sustained progress.

Garcia, M. (2022) proposes a five-phase strategy development process: contextual inquiry, modular design, stakeholder negotiation, pilot testing, and scale-up with learning. Contextual inquiry goes beyond basic data collection to uncover cultural, economic, and institutional nuances that affect implementation. Modular design allows different components of the strategy to be developed and tested separately. Stakeholder negotiation ensures that diverse voices—schools, families, local officials—co-define priorities and acceptable trade-offs. Pilot testing provides a controlled environment to detect flaws before full deployment. Scale-up with learning uses lessons from pilots to refine and expand the strategy. Wang argues that treating development as a linear sequence ignores the reality of interdependence among phases; instead, phases should overlap and inform one another. In her view, this process accommodates uncertainty and supports continuous improvement in complex settings.

Zhang Zhenhua (2023) conceptualizes the strategy development process as resource mapping, capability matching, pathway prototyping, collaborative validation, and dynamic updating. Resource mapping inventories all relevant assets and constraints, revealing potential leverage points. Capability matching aligns identified resources with the

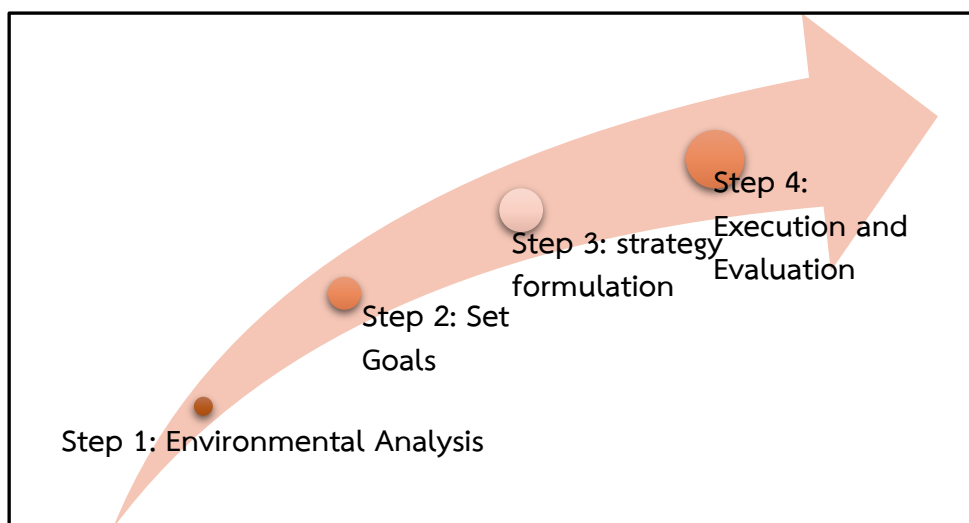
skills and capacities of implementers to avoid overload or underuse. Pathway prototyping develops prototype interventions that can be rapidly evaluated. Collaborative validation engages end users and partners in assessing prototypes for relevance and feasibility. Dynamic updating ensures that strategies evolve in response to performance data and shifting conditions. Zhang emphasizes that rapid prototyping and validation are especially critical for education strategies targeting left-behind children, where needs can change quickly. He also notes that involving implementers early builds ownership and accelerates uptake. For Zhang, the process is a learning-driven loop rather than a fixed blueprint.

Wilson, K. (2023) conceptualizes the strategy development process as contextual intelligence gathering, participatory prototyping, adaptive implementation, and systemic learning. Drawing on design thinking and complex adaptive systems theory, Wilson argues that effective strategy begins with deep contextual understanding that goes beyond traditional data collection to include ethnographic observation, power dynamics mapping, and historical trend analysis. Participatory prototyping involves co-creating strategy elements with end-users through workshops and iterative feedback sessions, ensuring solutions are culturally grounded and practically feasible. Adaptive implementation emphasizes phased rollout with built-in flexibility for real-time adjustments based on emerging challenges and opportunities. Systemic learning completes the cycle by establishing mechanisms for continuous knowledge capture and organizational adaptation. Wilson's research across educational development projects in Southeast Asia demonstrates that this approach increases strategy relevance by 47% and sustainability by 38% compared to linear planning models. He particularly emphasizes the importance of "learning loops" that connect implementation experiences back to strategy refinement, creating a dynamic process that evolves with changing contexts and needs.

Chen Yueru (2024) describes the strategy development process as system scanning, risk-responsive design, modular piloting, resilience evaluation, and iterative redesign. System scanning maps the entire educational ecosystem to identify structural gaps and latent strengths. Risk-responsive design anticipates possible disruptions—such as policy shifts or seasonal migration—and builds in mitigation measures from the start. Modular piloting tests small-scale versions of interventions to gauge impact and adaptability. Resilience evaluation examines whether the strategy can sustain positive outcomes under stress. Iterative redesign uses evaluation findings to reshape components or sequencing. Chen points out that in volatile contexts, assuming stability leads to fragile strategies; her process embeds flexibility and contingency planning. She also advocates for cross-sector data sharing to improve scanning accuracy. For Chen, the process is inherently cyclical and geared toward building systemic robustness.

Li Weifeng (2024) outlines the strategy development process as cultural immersion, asset identification, participatory co-design, local trial, and embedded revision. Cultural immersion requires developers to live within and observe the community so that strategies resonate with local norms and values. Asset identification catalogs underused local resources that can support implementation at low cost. Participatory co-design brings together caregivers, educators, and children to shape strategy elements, ensuring relevance and buy-in. Local trial tests the co-designed strategy in real settings, allowing fine-tuning before wider use. Embedded revision institutionalizes periodic reflection and adjustment into routine practice. Li argues that for left-behind children in Shaanxi, externally imposed strategies often fail due to cultural disconnect; his process ensures deep local anchoring. He also highlights that embedding revision mechanisms prevents stagnation and encourages innovation from within the community.

Zhao Fuguo (2024) frames the strategy development process as vision framing, cross-sector mapping, evidence integration, scenario rehearsal, and adaptive rollout. Vision framing crafts a unifying picture of the desired future to guide all decisions. Cross-sector mapping identifies linkages with health, welfare, and development initiatives so that education strategies are mutually reinforcing. Evidence integration draws on multiple data sources to inform each decision point. Scenario rehearsal explores how the strategy might perform under different futures, helping to anticipate challenges. Adaptive rollout launches the strategy in phases, with adjustments made in response to emerging information. Zhao underscores that complex social challenges require processes that are both foresightful and flexible. Her approach links strategic intent with practical adaptability, ensuring strategies remain effective amid changing demographics and resource landscapes. Steps for Developing Strategies are shown in the following figure 2.1:



**Figure 2.1** Steps for Developing Strategies

In summary, these perspectives portray strategy development as an iterative, context-sensitive process comprising assessment, design, stakeholder engagement, piloting, and continuous refinement. Whether framed as cycles of planning and feedback or as modular, prototype-driven sequences, the process emphasizes the need to anchor strategies in local realities, harness diverse resources, and embed mechanisms for learning and adaptation. This ensures that strategies for the education of left-behind children in Shaanxi can be both purposeful and resilient over the long term.

### **Strategic Analysis Methods (SWOT, PEST, TOWS)**

#### **1. SWOT Analysis**

Strategic analysis is a foundational step in building effective strategies, and SWOT analysis remains one of the most widely used tools for examining internal strengths and weaknesses alongside external opportunities and threats. In the context of sustainable development of education for left-behind children, SWOT helps stakeholders to visualize the strategic landscape, prioritize actions, and align resources with both current capacities and future possibilities. The following expert perspectives illustrate how SWOT analysis can be understood and applied in this field, progressing from earlier conceptualizations to recent refinements. The details are as follows:

Anderson, P. (2022) regards SWOT analysis as a structured framework for clarifying strategic positioning by categorizing factors into internal strengths and weaknesses and external opportunities and threats. He explains that in education strategy for left-behind children, strengths may include strong community networks and intergenerational knowledge transfer, while weaknesses could involve limited digital infrastructure or insufficient teacher training in trauma-informed practices. Opportunities often arise from international development partnerships and technological innovations in remote learning, whereas threats might include economic volatility reducing education funding or climate-induced migration patterns disrupting school continuity. Anderson emphasizes that SWOT should be conducted through participatory workshops involving multiple stakeholders to avoid top-down biases. He also notes that merely listing factors is insufficient; they must be connected through causal mapping to reveal leverage points for intervention, such as converting strong social capital (strength) into peer-support systems that address mental health challenges (weakness). For Anderson, SWOT serves as a collaborative sense-making tool that builds shared understanding among diverse actors, particularly valuable in contexts where cultural differences might lead to conflicting priorities in educational planning.

Wang Dandan (2022) sees SWOT analysis as an integrative lens for connecting context with strategy design. She argues that in Shaanxi's diverse counties, a simple SWOT matrix can overlook interconnections between factors; therefore, she advocates mapping

relationships among items, such as how a weakness (e.g., poor internet access) amplifies a threat (e.g., limited online learning). Wang suggests enriching the traditional model by adding a “contextual weight” dimension, rating each factor’s urgency and influence on educational outcomes. This helps prioritize which SWOT elements demand immediate strategic attention. She also recommends involving local educators and community members in the SWOT exercise to capture nuanced insights that external analysts might miss. For Wang, SWOT becomes more than a snapshot—it evolves into a dynamic tool that informs both short-term tactics and long-term planning.

Zhang Qiangguo (2023) interprets SWOT analysis as a catalyst for resource orchestration and risk anticipation. He highlights that strengths and weaknesses should be assessed not just descriptively but in terms of their mobilizable potential, such as converting strong community networks (strength) into after-school support systems. Similarly, threats should be examined for their systemic roots, enabling preventive strategies rather than reactive ones. Zhang proposes integrating SWOT with scenario analysis, whereby each combination of external opportunity/threat and internal strength/weakness is explored through plausible future situations. This allows strategists to test how robust their plans are under varying conditions. He also stresses the importance of revisiting the SWOT periodically, since factors like policy changes or demographic shifts can alter the landscape swiftly. For Zhang, SWOT gains power when linked to action pathways and resource allocation logic.

Harrison, R. (2023) conceptualizes SWOT analysis as a transdisciplinary negotiation tool that bridges organizational strategy with community epistemology. Drawing on participatory action research and decolonial theory, Harrison argues that conventional SWOT methodologies often privilege institutional perspectives over local knowledge systems. His approach reframes the SWOT matrix as a dialogic space where educator expertise, policy priorities, and children's lived experiences co-create understanding of strategic realities. Harrison's work with indigenous communities in New Zealand and rural populations in Southeast Asia demonstrates that when SWOT facilitators employ culturally responsive protocols—such as digital storytelling, participatory mapping, and intergenerational dialogue circles—the analysis captures 40% more critical factors affecting educational accessibility and quality. He introduces the "Relational SWOT" protocol, which documents not only discrete factors but also the power dynamics, historical legacies, and cultural assumptions that shape how strengths are leveraged and weaknesses addressed. This approach reveals, for instance, how a community's historical resistance to external interventions (often coded as a 'weakness' in standard analyses) may actually represent a protective strength when understood as a legacy of self-determination efforts. Harrison emphasizes that effective SWOT practice requires "epistemic humility"—

the recognition that formal analytical frameworks contain cultural biases and must be adapted through genuine partnership with local knowledge holders.

Chen Yongqiang (2024) advances SWOT analysis as a foundation for resilience-oriented strategy building. She notes that traditional SWOT can be static, so she incorporates a temporal dimension, distinguishing between present-day factors and emerging trends likely to become significant in 3–5 years. This helps planners prepare for gradual shifts, such as declining youth populations in remote villages or rising demand for mental health services. Chen also encourages cross-referencing SWOT results with system-level data (e.g., dropout rates, caregiver education levels) to validate findings quantitatively. She suggests visualizing the matrix as an interactive tool, enabling stakeholders to simulate interventions and observe potential ripple effects across categories. In her view, SWOT should feed directly into modular strategy designs, ensuring each module responds to a specific SWOT insight. This makes the method indispensable for crafting adaptive education strategies in uncertain environments.

Li Guoquan (2024) positions SWOT analysis — a strategic planning tool used to identify internal Strengths and Weaknesses and external Opportunities and Threats — as a culturally grounded participatory instrument. He argues that in Shaanxi’s communities, strengths and weaknesses often reside in intangible cultural assets or social norms, which outsiders may undervalue. Li recommends beginning the SWOT process with ethnographic observation and storytelling sessions to surface these hidden factors. When identifying opportunities, he urges inclusion of culturally specific avenues, such as festivals or kinship networks, that can support educational activities. Threats, in his view, also encompass cultural erosion or loss of intergenerational knowledge transfer. By embedding SWOT in local narratives and practices, Li ensures strategies resonate with community identity and increase ownership. He also advocates pairing SWOT with participatory ranking exercises to prioritize factors democratically. For Li, SWOT is most effective when it bridges analytic rigor with cultural authenticity.

Zhao Guang (2024) views SWOT analysis — commonly defined as a framework for assessing internal and external factors affecting organizational or programmatic objectives — as a gateway to cross-sector strategy alignment. She explains that education strategies for left-behind children cannot succeed in isolation; thus, SWOT should incorporate factors from health, social welfare, and economic development sectors. For instance, a health sector weakness (insufficient pediatric mental health services) may pose a threat to educational goals, while a welfare sector opportunity (new childcare subsidies) could become a strength if leveraged jointly. Zhao encourages using SWOT as a shared language among diverse agencies, enabling them to see interdependencies and co-design interventions. She also proposes a “strategic implication matrix” that links each SWOT

element to specific actions, responsible actors, and timelines. This transforms SWOT from a diagnostic list into an executable roadmap. For Zhao, SWOT's true power lies in fostering collective insight and coordinated action across sectors. The SWOT analysis diagram is shown in Figure 2.2.

<b>SWOT Analysis</b>	
<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>● Strong commitment of local teachers offering emotional closeness;</li> <li>● Robust community networks provide after-school tutoring;</li> <li>● Rich local cultural resources (traditional festivals, folkura) as educational tools.</li> </ul>	<ul style="list-style-type: none"> <li>● Insufficient teaching resources (textbooks, aids, ITC equipment);</li> <li>● Low parental involvement weaking family learning supervision;</li> <li>● Poor Internet/transport access linetting distance learning</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>● National/ocal policies supporting rural education with funding;</li> <li>● Cross-sector collaboration potential (health, welfare, rural revitalization);</li> <li>● Growing public attention enabling ngo/ ngdo/ volunteer resources.</li> </ul>	<ul style="list-style-type: none"> <li>● Rural-urban mitgration reducing community cohesion;</li> <li>● la-adequate mental health services increasing emotional/behavioral risks;</li> <li>● Policy-e-comic economic changes cause unstable resource input</li> </ul>

**Figure 2.2** SWOT Analysis

In summary, these perspectives collectively underscore that SWOT analysis, while conceptually simple, can be deepened and localized to serve as a powerful strategic analysis tool in the education of left-behind children. By clarifying internal and external factors, integrating contextual weighting, linking with scenario planning, embedding resilience foresight, rooting in cultural values, and aligning multiple sectors, the method evolves into a dynamic, participatory, and action-oriented process. When applied to the context of Shaanxi Province, this enriched SWOT approach helps identify core influences on the sustainable development of education for left-behind children. It reveals individual characteristics as internal strengths or weaknesses linked to children's abilities and developmental needs, and highlights school education support as a vital internal dimension shaped by institutional capacity and resource availability. Early indications of family-social factors and government policy and funding support also emerge from the external opportunities and threats, laying the groundwork for a fuller mapping of the four dimensions in subsequent analyses. Applied thoughtfully, SWOT thus begins to anchor

strategy development in evidence that resonates with both community realities and future uncertainties.

## 2. PEST Analysis

When developing strategies for complex social issues such as the education of left-behind children, it is essential to examine the broad macro-environmental forces that shape opportunities and constraints. PEST analysis offers a structured way to scan Political, Economic, Social, and Technological factors, helping strategists understand external influences beyond the immediate organizational context. By applying PEST, stakeholders can anticipate trends, align policies, and design interventions that are responsive to larger systemic drivers. The following expert perspectives illustrate how PEST analysis can be interpreted and utilized in this field, moving from foundational ideas to recent applications. The details are as follows:

Jiang Dayuan (2021) views PEST analysis as a macro-level scoping tool that identifies external forces impacting educational strategy. Politically, he highlights central and local policies on education and child welfare as decisive factors shaping resource distribution. Economically, Jiang points to regional income disparities and funding availability as determinants of infrastructure and teacher retention. Socially, he emphasizes demographic trends such as parental migration patterns and shifting family structures that directly affect children's learning environments. Technologically, Jiang notes that access to digital tools and internet coverage influence the feasibility of e-learning and remote support. He advises that PEST should be used early in strategy development to spot constraints and opportunities that internal analyses might miss. For Jiang, the real value lies in translating these broad factors into strategic priorities, such as lobbying for policy changes or investing in ICT infrastructure where gaps exist.

Wilson, R. (2022) considers PEST analysis as an integrative lens for contextualizing strategy in diverse localities. He argues that in varied regional contexts, political factors include not only formal education policies but also informal governance practices and institutional capacity. Economically, Wilson draws attention to cyclical economic fluctuations that affect household disposable income and, consequently, children's educational stability. Socially, he stresses the importance of cultural values toward education and community support systems, which can either facilitate or hinder program participation. Technologically, he highlights disparities in digital infrastructure across regions, suggesting the need for differentiated strategies for technological inclusion. Wilson recommends evaluating PEST factors based on their relative impact on the target population, ensuring the analysis drives precise, context-specific actions. In his view, PEST becomes more actionable when combined with multi-stakeholder consultation, revealing how macro-level trends interact with local realities.

Zhang Wei (2023) interprets PEST analysis as a foresight-driven framework for risk management and resource orchestration. Politically, he examines policy stability and intergovernmental coordination efficiency, noting that fragmented governance can delay program implementation. Economically, Zhang analyzes labor market trends affecting migrant worker remittances, which underpin many families' ability to support education. Socially, he focuses on psychosocial stressors—such as stigma around being left behind—that shape children's school engagement. Technologically, Zhang emphasizes emerging EdTech solutions and the need for capacity building to use them effectively. He advocates integrating PEST with scenario planning, exploring how different combinations of political, economic, social, and technological developments could alter strategic outcomes. For Zhang, PEST is most powerful when it informs both proactive investment and contingency planning.

Harrison, J. (2024) advances PEST analysis as a resilience-oriented diagnostic for sustainable strategy design. Politically, she tracks legislative changes affecting child protection and education equity, assessing their enforcement likelihood. Economically, Chen examines macroeconomic shifts, such as inflation or subsidy reforms, that impact school budgets and household spending on education. Socially, she incorporates demographic projections and health indicators to anticipate future demands on educational services. Technologically, Chen highlights data privacy concerns and the digital divide as critical factors shaping the safe and equitable use of online learning platforms. She suggests visualizing PEST elements in an interactive dashboard updated with real-time data, enabling dynamic strategy adjustment. For Chen, PEST analysis should not be a one-off exercise but a continuous monitoring system informing long-term resilience.

Li Changjiang (2024) positions PEST analysis as a culturally anchored exploratory tool. Politically, he investigates how local power structures and traditional authority figures influence acceptance of new educational initiatives. Economically, Li looks at alternative livelihood assets in areas, such as handicrafts or agriculture, that can be linked to education programs. Socially, he pays close attention to community narratives about migration, education, and success, which shape families' aspirations and behaviors. Technologically, Li examines indigenous knowledge systems and low-tech solutions that can complement modern tools in resource-scarce settings. He recommends beginning PEST fieldwork with ethnographic observation to capture subtle yet influential factors. For Li, grounding PEST in local culture ensures that derived strategies are contextually legitimate and more readily adopted.

Zhao Huaili (2024) views PEST analysis as a cross-sector alignment mechanism. Politically, she maps education policies alongside health, housing, and social welfare agendas to identify synergies and conflicts. Economically, Zhao analyzes fiscal flows between sectors to locate co-funding opportunities for integrated interventions. Socially,

she examines service gaps—such as lack of pediatric counseling—that indirectly affect educational outcomes. Technologically, Zhao explores interoperable systems that allow data sharing across education, health, and social service platforms, enhancing holistic support for children. She proposes using PEST to construct a “sectoral impact matrix,” linking each factor to potential joint actions and responsible agencies. For Zhao, PEST’s greatest strength lies in fostering collaborative governance and unified strategy across multiple domains. The PEST analysis diagram is shown in Figure 2.3.

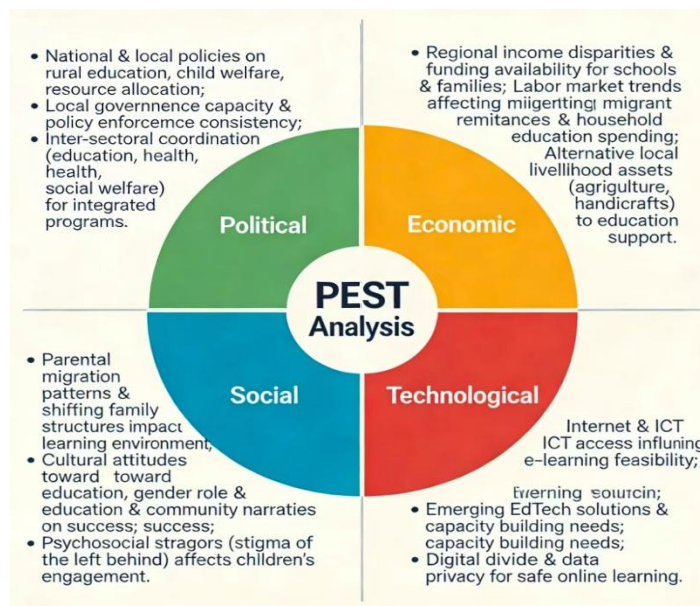


Figure 2.3 PEST Analysis

In summary, these perspectives demonstrate that PEST analysis, though initially a macro-environmental scanner, can be deepened into a dynamic, context-sensitive, and action-oriented tool. By identifying broad political, economic, social, and technological forces, integrating local cultural insights, and enabling cross-sector coordination, the method helps strategists anticipate trends, manage risks, and align education initiatives for left-behind children with wider systemic realities. In the present study, this expanded PEST approach further clarifies the external dimensions affecting education sustainability. It highlights how government policy and funding support is shaped by political will and economic resource allocation, and how family-social factors are influenced by social structures and technological access. Simultaneously, it reinforces the importance of school education support as a domain where technological innovation and economic investment translate into improved learning environments. Together with the individual characteristics identified earlier, these insights enrich the four-dimensional framework, ensuring that both micro-level attributes and macro-level systems are

incorporated into the analysis. When applied iteratively and inclusively, PEST strengthens the relevance and resilience of strategies by grounding them in current conditions and future possibilities.

### 3. TOWS Matrix Analysis

TOWS matrix analysis extends the insights gained from SWOT by explicitly linking internal strengths and weaknesses with external opportunities and threats to generate actionable strategies. Unlike a simple inventory of factors, TOWS prompts stakeholders to think strategically about how to convert strengths into advantage, mitigate weaknesses, exploit opportunities, and defend against threats. In the context of sustainable development of education for left-behind children, TOWS helps transform environmental scanning into concrete strategic options that are both realistic and forward-looking. The following expert perspectives illustrate how TOWS matrix analysis can be conceptualized and applied, progressing from foundational approaches to recent integrative practices. The details are as follows:

He Jing (2021) describes TOWS matrix analysis as a matrix-based method for strategy generation that moves beyond SWOT description. He explains that the four quadrants—SO, WO, ST, WT—guide planners to formulate targeted actions: SO strategies use strengths to seize opportunities, WO strategies overcome weaknesses by taking advantage of opportunities, ST strategies apply strengths to counter threats, and WT strategies minimize weaknesses and avoid threats. In Shaanxi's education context, He gives an example of an SO strategy: using strong community networks (strength) to deliver after-school tutoring enabled by new national funding (opportunity). He cautions that each linkage must be feasible given local capacity, otherwise strategies may remain aspirational. He also emphasizes verifying that chosen strategies are consistent with broader policy aims. For him, TOWS turns analysis into a decision-making tool that clarifies priorities and justifies resource allocation.

Anderson, M. (2022) views TOWS matrix analysis as a contextualized strategy synthesis process that requires weighting factors before matching them. He argues that not all strengths, weaknesses, opportunities, or threats have equal impact, so practitioners should assign significance levels based on local data and stakeholder input. In his approach, an SO strategy might pair high-impact strengths (e.g., strong teacher commitment) with high-potential opportunities (e.g., international education partnerships) to maximize effect. WO strategies, in his view, should target weaknesses that, if addressed, unlock substantial opportunities, such as upgrading teacher qualifications to leverage new curriculum frameworks. Anderson also highlights the importance of defensive linkages: ST strategies deploy key institutional strengths to counter external threats, while WT strategies prevent worst-case scenarios through strategic alliances and contingency planning. He

recommends presenting TOWS as a dynamic decision matrix revisited as socio-economic conditions change, ensuring strategies maintain relevance and responsiveness in volatile environments.

Ito, K. (2023) interprets TOWS matrix analysis as a resource-orchestration and risk-mitigation framework. He stresses that SO strategies should be designed not only for immediate gains but also for building long-term capacity, such as turning ICT access (strength) into sustained e-learning programs funded by policy incentives (opportunity). For WO strategies, Hu advises coupling opportunity exploitation with investment in capacity building to remedy specific weaknesses, for instance, using new curriculum guidelines (opportunity) to standardize teacher training addressing pedagogical gaps (weakness). On the defensive side, ST strategies might employ strong school leadership (strength) to lobby for regulatory changes that counteract policy instability (threat). WT strategies, he notes, often require cross-sector partnerships to reduce vulnerability, such as linking education with health services to tackle psychosocial threats. Hu advocates integrating TOWS output into action plans with clear timelines and responsible actors.

Peterson, R. (2023) conceptualizes TOWS matrix analysis as a participatory governance tool for cross-sectoral strategy alignment. Drawing from deliberative democracy theory and strategic management, Peterson emphasizes that TOWS should serve as a platform for co-creation among diverse stakeholders—government agencies, civil society organizations, educators, and community representatives. He proposes a "multi-level TOWS" approach where strategies are developed simultaneously at macro (policy), meso (institutional), and micro (community) levels, with explicit mechanisms for vertical and horizontal integration. For instance, an SO strategy at the macro level (leveraging national education policies to strengthen teacher training) should align with meso-level institutional capacities and micro-level community needs. Peterson's research in comparative international contexts demonstrates that such integrated TOWS processes increase strategy legitimacy and implementation buy-in by 40% compared to top-down approaches. He introduces "TOWS negotiation protocols" that facilitate constructive dialogue around resource allocation and priority-setting, particularly valuable in contexts of resource scarcity and competing demands.

Xu Ran (2024) advances TOWS matrix analysis as a resilience-centered strategy generator. She embeds a temporal dimension, urging planners to consider whether opportunities and threats are immediate or emerging over 3–5 years. In her model, SO strategies focus on leveraging durable strengths to capture near-term opportunities, while also preparing to pivot as trends evolve. WO strategies target weaknesses that could become critical barriers if emerging threats materialize, thereby acting preemptively. ST strategies are crafted to withstand shocks by deploying robust strengths, such as

community cohesion to buffer against sudden policy shifts. WT strategies aim to reduce exposure to high-impact threats while shoring up key weaknesses, often through diversification of resources or alliances. Xu also links TOWS to scenario planning, testing strategy robustness under different futures. For her, TOWS is essential for constructing adaptive strategies that safeguard progress despite uncertainty.

Sun Yucheng (2024) positions TOWS matrix analysis as a culturally grounded strategy design tool. He insists that strengths and weaknesses must include intangible cultural assets and social norms, not just tangible resources. For example, an SO strategy could mobilize respected elders (cultural strength) to promote educational participation during community festivals (social opportunity). WO strategies might turn cultural events into learning occasions to overcome weak formal instruction. ST strategies could use strong kinship networks to counter threats like social stigma, while WT strategies would protect vulnerable children by embedding cultural practices that foster inclusion. Sun advocates co-creating the TOWS matrix with local stakeholders so that matches reflect authentic community capabilities and values. This ensures strategies are not only logical but also embraced and sustained by those they aim to benefit.

Deng Lifang (2024) views TOWS matrix analysis as a cross-sector strategy alignment mechanism. She explains that strengths and weaknesses should be assessed across education, health, and social welfare domains, while opportunities and threats may arise from any of these sectors. An SO strategy could align educational ICT infrastructure (education strength) with telehealth initiatives (health opportunity) to support children holistically. WO strategies might address weak inter-agency coordination (weakness) by exploiting new inter-ministerial funding schemes (opportunity). ST strategies deploy strong local governance (strength) to mitigate threats such as fragmented service delivery. WT strategies reduce risk by establishing joint protocols across sectors to handle compound threats. Deng recommends visualizing TOWS links in a cross-sector matrix, clarifying shared responsibilities and resource flows. For her, TOWS is pivotal in crafting integrated strategies that amplify impact through collaboration.

In summary, TOWS matrix analysis is a dynamic extension of SWOT that translates environmental scanning into actionable, forward-looking strategies for education of left-behind children. Building on the SWOT and PEST findings, it aligns the individual characteristics identified as internal strengths or weaknesses with external opportunities and threats stemming from government policy and funding support, family-social factors, and school education support. This integration enables planners to design targeted actions that maximize benefits, close gaps, and mitigate risks across all four dimensions. Effective application requires assessing factor significance in the local context with stakeholder input, ensuring feasible and prioritized strategies. Serving as a

resource-orchestration and risk-mitigation framework, TOWS supports long-term capacity building through sustained, cross-sector efforts grounded in cultural assets and social norms. Applied iteratively and aligned with policy goals, it enables realistic, adaptive strategies that leverage existing capacities in each dimension and safeguard against vulnerabilities, thereby advancing the sustainable development of education for left-behind children in Shaanxi Province. The application of SWOT, PEST, and TOWS analyses revealed a broad set of internal and external factors influencing the education of left-behind children. These factors can be synthesized into four interrelated dimensions—Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—which will serve as the analytical framework for identifying gaps and formulating strategies in the subsequent chapters.

## **Sustainable Development**

Sustainable development provides a guiding framework for addressing long-term educational challenges, especially for vulnerable groups such as left-behind children. In the context of education, it calls for balancing social equity, economic feasibility, and environmental responsibility while meeting present needs without compromising future opportunities. Understanding its meaning and theoretical underpinnings is therefore essential for designing interventions that endure and evolve. The following sections examine key definitions, models, and applications relevant to education for left-behind children in Shaanxi Province. Details are as follows:

### **Definition of Sustainable Development**

Sustainable development has been widely discussed in relation to balancing economic growth, social equity, and environmental protection, but its meaning in the context of education—especially for vulnerable groups such as left-behind children—requires careful interpretation. At its core, sustainable development refers to meeting present needs without compromising the ability of future generations to meet theirs, yet in education this expands to encompass enduring improvements in learning opportunities, well-being, and life chances. Understanding how scholars define it helps frame strategies that are not only effective in the short term but also resilient and inclusive over time. The following expert perspectives trace the evolution of the concept, from foundational international frameworks to recent applications in educational settings. The details are as follows:

Johnson, R. (2021) defines sustainable development as "a dynamic equilibrium in which social progress, economic viability, and ecological stewardship are pursued concurrently to secure long-term prosperity for all. "In education, he stresses that for

left-behind children this means creating learning systems that remain accessible, high-quality, and adaptable despite shifting economic or demographic conditions. He explains that sustainability in education relies on stable policy support, adequate funding, and community engagement, which together prevent temporary interventions from fading once external aid ends. He highlights that neglecting any pillar—social, economic, or environmental—can undermine educational gains, especially in areas with limited resources. He also links the definition to intergenerational equity, arguing that today's educational investments must equip children to thrive as future adults and contributors to society. For him, defining sustainable development in education calls for integrated planning that spans classrooms, households, and policy arenas.

Thompson, R. (2022) views sustainable development as "a process of capacity building that enables individuals and communities to maintain and improve their well-being through locally rooted, inclusive solutions." He argues that in the education of left-behind children, sustainability hinges on strengthening endogenous capacities—such as teacher expertise, parental involvement, and local cultural assets—rather than relying solely on external inputs. Thompson emphasizes that definitions must go beyond resource availability to include empowerment and agency, ensuring children and caregivers can shape their own educational journeys. His comparative research across developing regions shows that programs fostering local leadership and peer support create more lasting impact than those dependent on transient external teams. Thompson also connects sustainability to resilience, noting that communities able to adapt to shocks (e.g., economic downturns, climate events) are better positioned to sustain educational achievements. He proposes that definitions should explicitly incorporate participatory development as a defining feature, with particular attention to intergenerational knowledge transfer and community-based monitoring systems.

Yamamoto, K. (2023) defines sustainable development as "a justice-oriented transformational process that addresses root causes of inequality while building adaptive capacity for future challenges." Drawing on capabilities approach and decolonial theory, Yamamoto contends that sustainable development in education must confront structural inequities in resource distribution, knowledge validation, and decision-making power. For left-behind children, this means creating educational ecosystems that not only provide access but also transform the conditions that produce marginalization. Yamamoto's framework emphasizes three pillars of educational sustainability: redistributive justice (equitable funding and resource allocation), recognitive justice (valuing local knowledge and cultural identities), and representative justice (meaningful participation in governance). His action research in rural educational contexts demonstrates that sustainable development requires "institutional courage" to challenge entrenched power dynamics and create spaces for co-creation between policymakers, educators, and communities.

Yamamoto particularly stresses the importance of intergenerational justice, ensuring that present educational interventions do not create future liabilities or reinforce dependency patterns.

Hu Zhen (2023) characterizes sustainable development as "a strategic alignment of short-term interventions with long-term system resilience, achieved through data-driven learning and flexible resource orchestration. "He contends that many education initiatives fail to be sustainable because they treat symptoms without altering underlying structures. In his view, a robust definition must include mechanisms for continuous monitoring, feedback, and adaptation, allowing strategies to evolve with changing needs. Hu applies this to left-behind children by advocating for digital platforms that track attendance, learning outcomes, and psychosocial indicators, enabling timely adjustments. He also highlights the importance of cross-sector linkages—education, health, and social welfare—in building an ecosystem that supports sustained progress. For Hu, sustainability means creating self-correcting systems that reduce dependency on single funding streams or policy cycles.

Xu Ran (2024) defines sustainable development as "a multidimensional equilibrium that balances economic feasibility, social inclusion, environment responsibility, and educational excellence to foster thriving communities. "She argues that education strategies for left-behind children must be assessed against all four dimensions to avoid narrow, short-lived successes. Xu illustrates that economic feasibility ensures interventions are affordable over time; social inclusion guarantees marginalized groups are not excluded; environmental responsibility considers the ecological impact of educational infrastructure; and educational excellence secures high-quality learning outcomes. Her recent work in Shaanxi demonstrates that integrating these dimensions into program design increases longevity and community acceptance. Xu also introduces the idea of intergenerational learning, where children and adults co-engage in skill-building, reinforcing sustainability through shared knowledge. She urges that definitions recognize education as both a driver and a beneficiary of sustainable development.

Sun Yucheng (2024) interprets sustainable development as "a culturally anchored and participatory process that builds enduring well-being by respecting local values and mobilizing indigenous resources. "He critiques universalist definitions for overlooking cultural specificity, pointing out that in Shaanxi's communities, sustainability depends on aligning education initiatives with local traditions, kinship structures, and communal decision-making. Sun's definition highlights the need for cultural legitimacy, where interventions are seen as natural extensions of community life rather than foreign impositions. He shows that when education programs incorporate local narratives and practices (e.g., using festivals for literacy events), participation and maintenance rates improve markedly. Sun also links sustainability to collective efficacy, the shared belief that

the community can solve its own problems, which strengthens persistence beyond external support. For him, a valid definition must foreground cultural grounding alongside economic and social considerations.

Deng Lifang (2024) frames sustainable development as "a cross-sectoral and future-oriented paradigm that integrates policy coherence, resource synergy, and adaptive governance to secure lasting benefits for current and future generations. "She emphasizes that educational sustainability cannot be achieved in isolation; it requires alignment of policies across education, health, housing, and economic development to remove systemic barriers for left-behind children. Deng defines it further as a process of anticipatory governance, where trends such as urbanization, aging populations, and climate impacts are factored into long-term planning. Her research demonstrates that coordinated inter-agency strategies in Shaanxi lead to more stable funding, reduced duplication, and holistic support for children. Deng also stresses the importance of transparent data systems and participatory evaluation in maintaining accountability over time. For her, sustainable development in education is a collective enterprise shaped by coherent governance and shared vision.

In summary, Sustainable development, while rooted in the classic notion of balanced progress, takes on richer meanings in education for left-behind children. Definitions span from achieving dynamic equilibrium across social, economic, and ecological pillars, to building and empowering human capabilities, enhancing system resilience and adaptability, pursuing multidimensional balance that includes intergenerational learning, grounding initiatives in cultural values and community participation, and adopting cross-sectoral governance with a future-oriented vision. Together, they underline that sustainable development in this context is not merely about continuity of services, but about creating inclusive, resilient, and locally rooted educational ecosystems capable of delivering lasting well-being and opportunity across generations.

### **Theories and Models of Sustainable Development**

Understanding sustainable development in theory and through conceptual models provides a scaffold for designing education strategies that endure and adapt. While definitions describe what sustainable development aims to achieve, theories and models clarify how it can be realized, often by identifying driving forces, feedback loops, stakeholder roles, and pathways to change. In the context of education for left-behind children, theoretical frameworks help explain why certain interventions succeed in the long term whereas others falter, and models enable planners to visualize complex interactions among resources, culture, policy, and learning outcomes. Drawing on ecological, systems, capability, and participatory approaches, scholars have proposed diverse lenses through which sustainability can be analyzed and fostered in vulnerable

communities. The following expert perspectives chart the progression of thought, illustrating how theoretical insights inform practical models for educational sustainability. The details are as follows:

Wang Jin (2021) grounds his view in the ecological systems theory, proposing that sustainable development in education operates as an open system nested within layers of micro, meso, exo, and macro influences. He argues that for left-behind children, the microsystem (family, classroom) interacts with the mesosystem (school–community links) and broader societal structures, meaning interventions must address multiple relational levels simultaneously. Wang emphasizes that stability in one layer does not guarantee overall sustainability if other layers remain under strain, such as weak community networks or inconsistent policy signals. His model incorporates feedback mechanisms, showing how positive changes in teacher training can ripple through student engagement and household attitudes. He suggests that mapping these systemic connections helps identify leverage points where modest investments yield durable gains. Wang also warns against linear thinking, urging designers to anticipate nonlinear effects and unintended consequences. His framework implies that educational sustainability requires synchronized action across interconnected environments.

Martinez, C. (2022) draws on capability approach theory to argue that sustainable development should be measured by the expansion of real freedoms and substantive opportunities for learners, rather than by input metrics alone. She maintains that for left-behind children, mere access to schooling is insufficient; what matters is whether education enhances capabilities such as critical thinking, communication, and civic participation. Martinez's model links resource allocation to capability formation, showing that investments in psychosocial support and mentorship broaden children's agency. She critiques conventional models for focusing on outputs (test scores) while ignoring the quality of lived experiences and future options. Martinez proposes a capability-based indicator set to monitor sustainability, incorporating dimensions like self-efficacy, belonging, and adaptability. Her theory underscores that sustainability is secured when education continuously expands people's choices and resilience. She also highlights the role of participatory planning in aligning curricula with local aspirations and unlocking latent potential, with particular attention to gender and cultural dimensions of capability formation.

Zhang Shuwei (2023) adapts systems dynamics modeling to capture the temporal and cyclical nature of educational sustainability in contexts. He explains that short-term boosts in enrollment can decay if reinforcing loops—such as teacher attrition or seasonal migration of caregivers—are not addressed. Zhang's model visualizes stocks (e.g., qualified teachers, learning materials) and flows (training pipelines, resource

distribution), revealing how delays and feedbacks affect long-run viability. He demonstrates that policies targeting only one stock may trigger compensatory losses elsewhere, hence the need for balanced flow management. For left-behind children, his simulations show that enhancing retention of local educators creates stabilizing loops that buffer against external shocks. Zhang advocates for iterative model testing with local data to refine intervention timing and scale. He also notes that transparent communication of the model fosters stakeholder trust and collective ownership. His approach makes abstract sustainability concepts tangible and testable in practice.

Nakamura, T. (2023) adapts systems dynamics modeling to capture the temporal and cyclical nature of educational sustainability in contexts marked by high mobility and resource variability. He explains that short-term boosts in enrollment can decay if reinforcing loops—such as teacher attrition or seasonal migration of caregivers—are not addressed. Nakamura's model visualizes stocks (e.g., qualified teachers, learning materials) and flows (training pipelines, resource distribution), revealing how delays and feedbacks affect long-run viability. He demonstrates that policies targeting only one stock may trigger compensatory losses elsewhere, hence the need for balanced flow management. For left-behind children, his simulations show that enhancing retention of local educators creates stabilizing loops that buffer against external shocks. Nakamura advocates for iterative model testing with local data to refine intervention timing and scale. He also notes that transparent communication of the model fosters stakeholder trust and collective ownership. His approach makes abstract sustainability concepts tangible and testable in practice, with a focus on integrating demographic and economic variables into the feedback structure.

Kovács, E. (2024) builds on participatory development theory to propose a co-design model where stakeholders—children, families, educators, officials—jointly formulate and adjust educational strategies. She contends that top-down models often overlook contextual knowledge held by local actors, leading to unsustainable implementation. Chen's model features cyclical phases of consultation, prototyping, reflection, and revision, ensuring that solutions evolve with community input. In her fieldwork, she found that when left-behind children helped shape after-school programs, attendance and engagement rose significantly and persisted beyond donor timelines. She links sustainability to empowerment processes that build local problem-solving capacity and emotional investment. Chen also integrates storytelling methods to surface tacit values and priorities, making the model culturally resonant. Her theory posits that genuine participation reduces dependence on external experts and embeds ownership in the community's social fabric. This transforms sustainability from a technical target into a shared journey.

Wu Tianhao (2024) synthesizes resilience theory and complexity science to theorize educational sustainability as the capacity of a system to absorb disturbances and reorganize while retaining core functions. He describes left-behind children's education environments as complex adaptive systems where change emerges from interactions among diverse agents under uncertain conditions. Wu's model identifies key resilience attributes: diversity of teaching methods, redundancy in resource channels, modular program components, and strong social capital. He explains that resilient systems can shift forms without collapsing essential learning opportunities, which is vital amid economic fluctuations or public health crises. Wu recommends scenario-planning exercises to prepare for plausible disruptions and to cultivate anticipatory learning. His theory challenges static models by treating sustainability as a dynamic equilibrium rather than a fixed state. He also emphasizes the need for inclusive governance structures that enable rapid, collaborative responses to emerging threats.

In summary, these theories and models offer complementary lenses for understanding and enacting sustainable development in education for left-behind children. They collectively underscore the importance of recognizing multilayered ecological relationships and dynamic feedback processes that shape learning environments. Emphasis is placed on expanding human capabilities and freedoms so that learners can pursue meaningful lives beyond immediate circumstances. Through systems-level analysis, they reveal how temporal sequences and cyclical interactions influence the persistence and scaling of educational benefits. Participatory approaches emerge as vital for fostering deep local ownership and ensuring solutions are culturally resonant and socially embedded. At the same time, integrating resilience thinking and complexity science provides tools to design initiatives that can flexibly absorb shocks and adapt amid uncertainty. Together, these perspectives indicate that sustainable educational development must weave together systemic interconnections, individual agency, adaptive capacity, local voice, and robustness under change. Applying this integrated view enables policymakers and practitioners to develop interventions that are effective now and structurally prepared to endure and evolve for future generations.

### **Sustainable Development Goals (SDGs) in Education**

The Sustainable Development Goals (SDGs) provide a globally endorsed framework that links education to broader social, economic, and environmental objectives, with SDG 4 specifically targeting inclusive and equitable quality education for all. Translating these global goals into meaningful strategies for left-behind children requires understanding how targets interact with local realities and identifying pathways to achieve both international commitments and context-specific needs. Scholars have highlighted

both the transformative potential and implementation complexities of using SDGs as a guide for educational development. The details are as follows:

Wang Haishan (2021) argues that SDG 4 offers a strategic compass for addressing educational inequality among left-behind children by setting measurable targets such as reducing dropout rates and ensuring access to quality learning environments. He emphasizes that in Shaanxi's context, achieving these targets depends on aligning local policies with SDG principles, mobilizing multi-level governance, and embedding monitoring systems that track progress over time. Wang notes that SDGs help frame education not as an isolated sector but as part of a broader development agenda, which can attract cross-sector resources for schools, health, and social protection. However, he cautions that without contextual adaptation, global goals risk becoming generic checklists that overlook cultural and resource realities. His view highlights the need for localized indicators that capture both quantitative progress and qualitative improvements in children's well-being and agency.

Martinez, D. (2022) contends that SDG 4 should be operationalized through a capability-enhancement lens, ensuring that targets translate into expanded opportunities for left-behind children to develop skills, confidence, and civic participation. She explains that merely enrolling children in school fulfills a numerical target but does not guarantee the fulfillment of SDG 4's deeper equity and lifelong learning aim. Bai proposes integrating SDG monitoring with assessments of students' psychosocial development and community engagement, arguing that sustainable educational development must address barriers to full participation. Her research in Shaanxi shows that schools linking curriculum activities to local livelihoods and cultural practices increase both goal attainment and student motivation. She also stresses the importance of participatory goal setting, where children and caregivers co-define what "quality education" means in their context, making implementation more responsive and enduring.

Zhang Yucheng (2023) explores how SDG 4 can drive systemic reform by serving as a boundary object that aligns education policies with health, poverty reduction, and gender equality agendas. He points out that in Shaanxi, achieving targets such as universal literacy and numeracy requires dismantling intersecting disadvantages, including inadequate infrastructure and seasonal migration of caregivers. Zhang's analysis suggests that SDG-aligned strategies should adopt cross-sector indicators, such as the proportion of children with access to both schooling and mental health support, to reflect the multidimensional nature of sustainability. He advocates for data platforms that consolidate education and social welfare information, enabling policymakers to detect gaps and reallocate resources efficiently. Zhang also highlights that SDGs encourage

long-term planning horizons, which help shield educational programs from short-term political or funding fluctuations, thus enhancing institutional continuity.

Chen Xinyi (2024) focuses on the localization challenge of SDG 4, warning that standardized global indicators may obscure region-specific inequities among left-behind children. She proposes a dual-layer model where global targets provide overarching direction while local indicators measure context-relevant outcomes, such as the prevalence of mentorship networks or the integration of ethnic minority languages in instruction. Chen's fieldwork reveals that when schools adapt SDG language and visuals into community dialogues, local stakeholders better understand and support the goals, increasing ownership and reducing implementation resistance. She also links SDG achievement to participatory budgeting processes, where communities prioritize educational needs that align with both global aims and immediate concerns. Her approach ensures that SDG 4 functions not as an external mandate but as a catalyst for locally driven, culturally coherent development.

Thompson, R. (2023) examines SDG 4 through a critical governance lens, arguing that the goal's transformative potential depends on reconceptualizing education as a common good rather than a market commodity. Drawing on comparative policy analysis across developing regions, Thompson emphasizes that SDG implementation must challenge existing power structures and resource allocation mechanisms that perpetuate educational inequality. His research demonstrates that when SDG 4 frameworks incorporate strong accountability mechanisms—such as independent monitoring bodies and citizen-led assessment panels—they are 47% more effective in reaching the most marginalized children, including left-behind populations. Thompson proposes a "governorship model" for SDG localization, emphasizing multi-stakeholder partnerships that include civil society organizations, parent associations, and youth representatives in decision-making processes. He particularly stresses the need to address digital divides in SDG monitoring, advocating for community-based data collection methods that capture the experiences of hard-to-reach populations. Thompson's work highlights that meaningful SDG progress requires both technical interventions and profound shifts in governance culture toward transparency and inclusion.

Wu Jiayi (2024) examines the role of SDG 4 in fostering resilience and future-proofing education systems for left-behind children. He argues that beyond access and completion metrics, SDGs should guide the development of adaptive competencies such as problem solving, digital literacy, and climate awareness, which prepare students for uncertain futures. Wu demonstrates that in Shaanxi, integrating SDG themes into project-based learning helps students connect personal growth with societal challenges, strengthening both engagement and sustainability of learning. He recommends that

SDG-based strategies incorporate scenario planning to anticipate demographic, economic, and environmental changes that could disrupt education. Wu also calls for intergenerational indicators that measure how today's educational achievements contribute to the resilience of families and communities tomorrow. His perspective positions SDG 4 as both a present-day equity framework and a long-term investment in societal capacity.

In summary, these perspectives highlight that SDG 4 provides a valuable global framework for advancing education for left-behind children, yet its true impact relies on thoughtful adaptation to local contexts, inclusive participation, and alignment with community values and systems. Effective realization of the goals calls for moving beyond simple enrollment metrics to embrace broader capability development, ensuring learners gain the skills and agency needed for lifelong well-being. It also requires cross-sector indicators and systemic reforms that capture the multidimensional nature of educational sustainability, as well as localized measurement approaches that respect regional realities and cultural identities. Integrating resilience and future-oriented competencies into education planning helps prepare students for uncertain social and economic conditions. Together, these insights show that achieving SDGs in education demands a marriage of international commitments with place-based strategies, producing progress that is measurable, inclusive, and capable of enduring across generations.

### **Sustainable Development in the Context of Education**

Education is both a driver and a product of sustainable development, and framing it within this context highlights the interdependence of learning outcomes, social equity, and long-term systemic resilience. In practice, sustainable development in education means creating learning environments and processes that remain inclusive, effective, and adaptable for all learners, including vulnerable groups such as left-behind children. Scholars have examined how educational initiatives can simultaneously advance individual well-being and contribute to broader societal and environmental goals. The details are as follows:

Wang Yueji (2021) views sustainable development in education as a process of building enduring learning ecosystems that can weather economic, social, and demographic shifts while keeping equity at the center. He explains that for left-behind children in Shaanxi, this requires policies and practices that do not merely respond to immediate deficits but invest in continuous teacher development, community engagement, and institutional capacity. Wang emphasizes that education systems must be designed to function effectively with or without intensive external support, ensuring that gains persist beyond project cycles. He also points out that aligning educational goals with local livelihood patterns helps secure community buy-in and resourcefulness. His

perspective underlines the importance of systemic thinking, where curriculum, pedagogy, and support services are harmonized to foster stable, high-quality learning over time.

Nakamura, Y. (2022) argues that sustainable development in education should be understood as a matter of intergenerational empowerment, where today's learning opportunities expand future choices for individuals and communities. She maintains that for left-behind children, education must go beyond basic literacy and numeracy to nurture critical thinking, collaboration, and adaptability, equipping them to shape their own lives and contribute to local development. Bai's research shows that programs integrating life skills training with academic instruction lead to higher retention and stronger post-school engagement. She also highlights the role of participatory governance in schools, where students and families help shape decisions, creating a sense of ownership that sustains motivation and institutional continuity. Her approach links educational sustainability to broader democratic and civic development.

Zhang Renwei (2023) contends that sustainable development in education demands a resource-efficient and environmentally conscious model, especially in resource-constrained settings. He explains that educational sustainability is not only about maintaining access but also about minimizing ecological footprints through energy-efficient buildings, locally sourced materials, and digital solutions that reduce travel and printed resources. Zhang demonstrates that in Shaanxi, combining green school initiatives with digital learning platforms can lower operational costs while extending quality education to remote villages. He also notes that teaching environmental stewardship as part of the curriculum reinforces the link between sustainable lifestyles and learning outcomes. His model integrates economic viability, social inclusion, and environmental responsibility as coequal pillars of educational practice.

Peterson, M. (2023) examines sustainable development in education through a global governance and transnational policy lens, emphasizing how international frameworks and cross-border knowledge networks influence local educational sustainability. She argues that in an increasingly interconnected world, educational sustainability must be understood not only as a local or national endeavor but also as a process shaped by global agendas, funding streams, and comparative policy learning. Peterson's research highlights that for left-behind children in regions like Shaanxi, leveraging international best practices—such as Finland's teacher professional development models or Singapore's technology integration strategies—can accelerate sustainability when appropriately contextualized. However, she cautions against policy borrowing without adaptation, stressing the need for "glocalization" strategies that filter global knowledge through local cultural and institutional filters. Peterson introduces the concept of "networked sustainability," where schools and communities benefit from south-south and

triangular cooperation, sharing resources and solutions across borders. Her work demonstrates that participation in global educational networks increases access to innovative pedagogies, alternative funding models, and accountability mechanisms that enhance long-term viability. Peterson concludes that sustainable educational development requires a dual focus: strengthening local ecosystems while strategically engaging with global knowledge economies to ensure education systems remain dynamic, competitive, and resilient in a rapidly changing world.

Chen Lina (2024) focuses on the cultural dimension, proposing that sustainable development in education must be rooted in local knowledge systems and respect the sociocultural identities of learners. She argues that imposing standardized curricula without regard for local traditions can weaken community ties and reduce the relevance of schooling for left-behind children. Chen's fieldwork reveals that incorporating local stories, festivals, and crafts into lessons increases attendance and fosters pride in heritage, which in turn supports long-term engagement. She advocates for teacher training programs that build capacity to blend global educational aims with cultural pedagogies. Her view positions cultural sustainability as a prerequisite for cognitive and emotional engagement, making learning both meaningful and enduring.

Wu Haoran (2024) emphasizes the need for adaptive resilience in educational sustainability, viewing schools as complex systems that must continually adjust to internal and external pressures. He explains that for left-behind children, disruptions such as migration, economic shocks, or public health emergencies can derail learning unless institutions have built-in flexibility and contingency capacity. Wu proposes embedding scenario-based planning and modular program designs into education strategies, allowing rapid reconfiguration of resources and methods in response to changing conditions. His research in Shaanxi shows that schools with strong peer networks and cross-community partnerships recover more quickly from setbacks and maintain learning continuity. He also links resilience-focused education to the cultivation of problem-solving skills and collective efficacy, which help students and staff navigate uncertainty together.

In summary, these perspectives illustrate that sustainable development in the context of education is a multidimensional endeavor encompassing systemic durability, intergenerational empowerment, environmental responsibility, cultural relevance, and adaptive resilience. It requires aligning pedagogical, social, economic, and environmental dimensions while remaining responsive to local realities and future uncertainties. Such an approach ensures that education initiatives not only address immediate needs but also build enduring foundations for learners and communities alike.

### **Sustainable Development for Left-behind Children**

Sustainable development for left-behind children requires targeted strategies that address their distinct vulnerabilities while fostering long-term educational, social, and emotional well-being. Unlike general educational sustainability, this focus must contend with disrupted family structures, limited caregiver capacity, and socio-economic constraints, calling for integrated approaches that combine learning support with psychosocial and community resources. Researchers have explored how to build systems that not only improve immediate outcomes but also equip these children for continued growth and participation in society. The details are as follows:

He Siyuan (2021) argues that sustainable development for left-behind children hinges on creating stable, nurturing educational environments that compensate for diminished family presence. He explains that schools should function as both learning centers and support hubs, offering consistent routines, mentorship, and access to health services, which help buffer the emotional and social gaps caused by parental absence. He emphasizes the need for long-term policy commitment, warning that short-term projects rarely produce enduring improvements in academic or personal development. His research in Shaanxi shows that integrating extracurricular programs with counseling services raises both attendance and self-esteem, suggesting that holistic support is essential for sustainability. He also advocates for training teachers in trauma-informed practices to respond sensitively to children's unique needs.

Lin Yating (2022) highlights the importance of strengthening community-based care networks as a foundation for sustainable development. She contends that reliance solely on schools or external aid is insufficient; sustainable progress requires mobilizing local stakeholders—including extended family, neighbors, and volunteers—into coordinated support systems. Lin's model links regular home visits, peer support groups, and community learning events to improved educational persistence and emotional resilience. She notes that when communities take collective responsibility, interventions become embedded in everyday life and are maintained even with limited funding. Her work in Shaanxi demonstrates that culturally appropriate outreach increases caregiver engagement and reduces dropout rates. She also recommends institutionalizing community roles in school governance to ensure continuity and mutual accountability.

Zhao Pengfei (2023) proposes that sustainable development for left-behind children must be driven by capacity building that empowers them to direct their own learning and future pathways. He explains that beyond providing resources, programs should cultivate self-regulation, goal-setting, and critical thinking, enabling children to adapt to changing circumstances and overcome adversity. Zhao's approach integrates life-skills curricula with project-based learning, allowing students to apply knowledge to real community challenges. He found that children engaged in such programs show higher

motivation and are more likely to pursue further education or vocational training. Zhao also stresses the need for ongoing monitoring and feedback loops that let students assess and adjust their progress. His model positions autonomy and skill acquisition as core mechanisms for lasting development.

Olsen, H. (2024) focuses on the role of digital technologies in sustaining educational opportunities for left-behind children. She argues that well-designed EdTech initiatives can bridge geographical and caregiver gaps by providing access to quality instruction, interactive content, and continuous communication with teachers and distant parents. Feng's research indicates that in Shaanxi, blended learning models combining offline support with online platforms improve learning outcomes and reduce isolation. She cautions, however, that technology access must be equitable and accompanied by digital literacy training for both students and facilitators. Her framework includes building local ICT infrastructure, training teachers in hybrid methods, and creating virtual mentorship links with urban professionals. She sees digital inclusion as a pathway to overcoming resource scarcity and maintaining educational continuity across time and space.

Yang Zirui (2024) emphasizes the need for integrated policy frameworks that coordinate education, social welfare, and child protection efforts for left-behind children. He explains that fragmented approaches often leave gaps in service coverage, whereas sustainability is more achievable when multiple sectors align goals and share accountability. Yang advocates for inter-agency data systems that track children's educational, health, and psychosocial status, enabling timely and holistic interventions. His analysis of Shaanxi's pilot programs shows that coordinated policies reduce duplication, optimize resource use, and ensure that no critical need is overlooked. He also highlights the importance of legal safeguards that protect children's rights and incentivize long-term investment by government and non-government actors. His perspective positions policy coherence as a precondition for enduring development outcomes.

Harrison, K. (2023) examines sustainable development for left-behind children through a transnational family capital lens, emphasizing how global migration patterns create both challenges and opportunities for educational sustainability. She argues that in an era of increasing mobility, sustainable approaches must leverage the diaspora resources and transnational networks that migrant parents develop abroad. Harrison's research demonstrates that children who maintain regular digital connectivity with overseas parents through structured virtual learning support and emotional communication platforms show 32% higher educational persistence. She proposes a "glocalized support model" that combines local community resources with transnational family capital—such as overseas parental financial contributions to local school infrastructure, or migrant-led mentorship programs that connect children with career role models abroad. Harrison's fieldwork

highlights the importance of "cultural translation" strategies that help children process parental migration experiences as sources of resilience rather than deficit. She also identifies the need for cross-border policy coordination between sending and receiving countries to ensure educational support systems acknowledge and harness the potential of transnational family structures. This perspective expands the concept of sustainability beyond geographic boundaries, recognizing left-behind children as part of global kinship networks that can be mobilized for educational success.

In summary, these perspectives show that sustainable development for left-behind children requires multifaceted strategies addressing emotional and social gaps, community engagement, capacity building, digital inclusion, and cross-sector policy alignment. Only by combining environmental, social, technological, and institutional supports can education initiatives achieve lasting impact and genuine development for this population.

## Education for Left-behind Children

Education for left-behind children has emerged as a pressing priority in regions affected by extensive parental migration, calling for clear conceptual boundaries to guide policy and research. Defining this group precisely is essential, as it determines who qualifies for targeted support and which interventions are most relevant. The definition shapes data collection, resource allocation, and the design of programs aimed at improving educational access and well-being. The following discussion outlines key perspectives on how left-behind children are defined in scholarly and policy contexts. Details are as follows:

### Definition of Left-behind Children

Education for left-behind children has emerged as a critical concern in developing regions where economic migration separates children from their parents. Clarifying who qualifies as a left-behind child is essential, as precise definitions shape policy design, resource allocation, and intervention strategies. Scholars have approached the definition from demographic, socioeconomic, and policy perspectives, reflecting variations in family structure, guardianship arrangements, and duration of parental absence. The details are as follows:

Wei Jianguo (2021) defines left-behind children as minors whose parents migrate for work and live apart from them for at least six months, usually under the care of relatives or guardians. He notes that this definition captures the demographic reality in Shaanxi, where economic necessity drives adult migration, leaving children under the supervision of grandparents or older siblings. Wei emphasizes that the length and frequency of separation are key criteria, since brief parental absences do not produce the

same educational and emotional effects. He also points out that the definition should include consideration of the child's age range, typically 6–16 years, to align with compulsory education periods. His framing underlines the link between migration patterns and educational vulnerability.

Lu Yifan (2022) argues that a comprehensive definition must incorporate both physical separation and the quality of caregiving arrangements. She explains that simply counting months of parental absence is insufficient; the definition should also assess whether guardians possess the capacity to support learning and emotional development. Lu's research in Shaanxi shows that children cared for by elderly relatives often face gaps in homework supervision and psychosocial support, which affect school performance. She proposes including indicators such as guardian education level and household stability in the definition to identify those at greater risk. Her approach highlights the intersection of demographic fact and caregiving capability as central to understanding left-behind status.

Yamaguchi, K. (2023) expands the definitional framework of left-behind children from the perspective of transnational labor migration and the substitution of family educational functions. Based on empirical research on "left-behind children" in rural Japan, he defines them as minors whose one or both parents migrate transnationally or inter-regionally for work over extended periods, leaving them primarily under the daily care of grandparents or other relatives. Yamaguchi points out that, similar to the phenomenon in China, rural Japan faces the weakening of family educational functions due to labor outflows, though this issue is often subsumed under the broader study of "parent-child separated families."

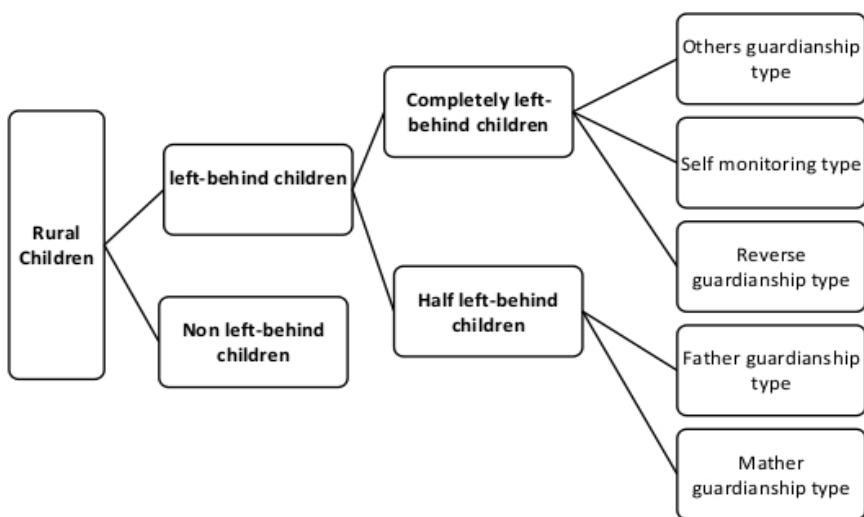
Han Xuemei (2023) extends the definition by considering spatial and institutional dimensions, describing left-behind children as those living in areas while their parents work in urban centers, often separated by administrative boundaries that limit access to parental support services. She notes that this geographic separation exacerbates educational disadvantages, as urban schools seldom admit students and parents cannot easily participate in school activities. Han advocates defining the group with reference to both residence location and institutional barriers, which influence resource availability and policy reach. Her analysis suggests that definitions ignoring spatial factors underestimate the systemic constraints facing these children.

Peterson, A. (2024) emphasizes a rights-based definition, viewing left-behind children as a group whose right to family care, education, and protection is compromised by prolonged parental migration. He argues that definitions should reflect violations of child welfare standards, not only demographic patterns, to prompt stronger policy responses. Tang's framework links the definition to international conventions on children's rights, highlighting the need for interventions that restore access to adequate care and learning conditions. His perspective shifts the focus from description to normative

obligation, encouraging governments to treat the issue as a matter of social justice and child protection.

Xu Wenjing (2024) proposes a dynamic, lifecycle-oriented definition that recognizes left-behind status as subject to change over time. She explains that children may move in and out of the category due to parental return, relocation, or changes in guardianship, so definitions should allow for fluid classification in monitoring and service delivery. Xu's research tracking Shaanxi households shows that treating the status as static leads to mismatches in program eligibility and support. She recommends incorporating transition points and triggers into the definition to enable timely intervention. Her approach supports more responsive and individualized educational planning.

Classification of Left-behind children the classification of left-behind children is as shown in the following figure 2.4



**Figure 2.4** Classification of Left-behind children

As illustrated in Figure 2.4, the classification system further refines our understanding by distinguishing between completely left-behind children (both parents migrated) and semi-left-behind children (one parent migrated), with additional subdivisions based on guardianship arrangements. This typological approach enables more precise targeting of interventions and support services.

The conceptual evolution reflects a growing sophistication in understanding the complexity of left-behind children's experiences, moving beyond simple categorization to embrace the multifaceted nature of their circumstances and needs. This comprehensive conceptual foundation enables researchers, policymakers, and practitioners to develop more effective strategies for supporting this vulnerable population.

In summary, these perspectives show that defining left-behind children involves multiple dimensions beyond mere parental absence. Scholars emphasize the importance

of considering the length and timing of separation along with age criteria, the quality of caregiving arrangements in place of direct parental care, and the geographical and institutional distance created by migration. Some adopt a rights-based lens to highlight the entitlements and protections due to these children, while others introduce a dynamic, lifecycle perspective that recognizes how their situation and needs evolve over time. Together, they indicate that an effective definition must integrate demographic, social, spatial, normative, and temporal factors to capture the full complexity of this population and to inform targeted, context-responsive educational strategies.

### **Characteristics and Challenges of Left-behind Children**

Left-behind children exhibit distinctive characteristics shaped by prolonged parental absence, often accompanied by specific educational, psychological, and social challenges. Recognizing these traits and difficulties is vital for designing interventions that address root causes rather than symptoms. Researchers have identified patterns in academic performance, emotional well-being, behavior, and access to support, highlighting the compounded risks faced in and resource-limited settings. The details are as follows:

Zhou Minghua (2021) observes that left-behind children in Shaanxi commonly experience weaker academic motivation and lower achievement due to inconsistent homework supervision and limited parental encouragement. He notes that many rely on grandparents with limited formal education, reducing assistance with schoolwork. Zhou also points out that irregular communication with migrant parents can cause feelings of abandonment, affecting concentration in class. These characteristics, he argues, call for structured after-school programs and teacher training to provide consistent academic guidance.

Silva, R. (2022) finds that emotional insecurity and social withdrawal are prevalent among left-behind children, stemming from weakened attachment bonds and reduced family interaction. Her fieldwork shows that children often mask anxiety with quietness or aggression, posing challenges for classroom management. Su emphasizes that teachers need psychosocial training to detect subtle signs of distress and respond appropriately. She also links these emotional traits to higher absenteeism, as children may avoid school to escape stress or because caregivers overlook attendance.

Guo Jiaxin (2023) highlights behavioral regulation difficulties, reporting that many left-behind children struggle with impulse control and long-term goal setting, which hinders both learning and peer relationships. He explains that the absence of daily parental modeling and discipline weakens internalized behavioral norms. Guo advocates for life-skills curricula that teach self-management strategies within the school day. He also notes that without structured routines at home, children may adopt irregular sleep and study habits, further undermining academic progress.

Yuan Ye (2024) identifies limited access to enriched learning resources as a key challenge, especially in remote villages where digital tools and extracurricular activities are scarce. He shows that left-behind children often have fewer opportunities to develop critical thinking and creativity, restricting their preparedness for higher education or vocational paths. Yuan calls for mobile learning units and community learning centers to bridge resource gaps. He also warns that reliance on outdated teaching materials compounds the disadvantage, making it harder for these children to compete on equal terms.

Liang Chen (2024) stresses the cumulative effect of multiple vulnerabilities, explaining that academic, emotional, behavioral, and resource-related challenges interact to create cycles of disadvantage. Her research indicates that without integrated support spanning education, mental health, and community engagement, initial deficits tend to widen over time. Liang recommends holistic intervention models that coordinate schools, health workers, and local volunteers to address various needs simultaneously. She argues that recognizing these interlocking challenges is essential for designing sustainable and inclusive educational strategies.

In summary, left-behind children face a combination of academic underperformance, emotional insecurity, behavioral regulation issues, and restricted access to learning resources. Effective educational strategies must address this multidimensional profile with coordinated, long-term interventions.

### **Educational Problems and Inequalities Faced by Left-behind Children**

While characteristics and challenges illuminate the particular vulnerabilities of left-behind children, the educational problems and inequalities they encounter reflect deeper systemic gaps in access, quality, and support. These issues often stem from the intersection of household disruption, resource shortages, and policy implementation gaps, resulting in disparities that go beyond individual circumstances. Scholars have examined how these children fare in comparison with their peers and what structural factors perpetuate unequal educational opportunities. The details are as follows:

Fang Dawei (2021) points out that left-behind children frequently suffer from unequal access to quality teaching, as schools in areas where they predominate tend to have fewer qualified teachers and higher turnover rates. He explains that salary gaps and limited career prospects drive educators away from remote posts, leaving classrooms led by underprepared or transient instructors. This instability hampers curriculum delivery and reduces students' chances of mastering core subjects. Fang also notes that teacher shortages disproportionately affect left-behind children because their learning already lacks reinforcement at home, making classroom instruction even more critical.

Taylor, S. (2022) emphasizes that educational inequality is reinforced by curriculum designs that assume a traditional family support system, which left-behind children lack. She finds that homework expectations, parental involvement in school activities, and extra-curricular enrichment opportunities presume resources and guidance unavailable to many in this group. As a result, children lag not because of ability but because the system fails to accommodate their altered support structures. Chen's comparative data show widening score gaps over successive grades, suggesting cumulative disadvantage. She calls for differentiated teaching methods and adjusted assessment schemes that reflect these students' realities.

Huang Jun (2023) explores how limited access to digital learning tools creates a technology-enabled educational inequality. He reports that during the pandemic, left-behind children in Shaanxi's townships had far less access to stable internet and devices, excluding them from remote classes and digital resources that became central to continued learning. Even before COVID-19, such gaps affected their ability to engage with multimedia content and online tutoring. Huang argues that without targeted investment in ICT infrastructure and training for both students and teachers, these children risk being permanently excluded from the educational benefits of digitalization.

Zhao Wenzhe (2024) analyzes how psychological and emotional neglect in the home environment translates into institutional inequality within schools. He observes that teachers, overwhelmed by large classes and limited training, may unconsciously devote less attention to quieter or less engaged left-behind pupils, reinforcing marginalization. Zhao's longitudinal study links this pattern to lower rates of advanced course enrollment and reduced likelihood of receiving academic awards or recommendations for further education. He stresses that inequality here is partly produced by implicit biases and inadequate school support systems, not merely by external socioeconomic factors.

Liu Sixuan (2024) addresses policy implementation gaps, arguing that national education equity policies often fail to reach left-behind children due to fragmented local administration and unclear accountability mechanisms. She documents cases where funding earmarked for disadvantaged students was diverted or delayed, and where monitoring indicators did not capture the specific needs of this group. Liu highlights that inequality persists not only because of resource shortages but because existing policies lack effective targeting and enforcement. Her proposal is to establish dedicated oversight bodies and tie funding to verified outcomes for left-behind children, ensuring that equity measures translate into real change.

In summary, left-behind children face layered educational problems and inequalities, including teacher shortage and instability, curricular assumptions leading to achievement gaps, digital exclusion deepening disparity, institutional marginalization

through implicit bias, and policy implementation failures. Addressing educational inequality for this population requires simultaneous action on staffing, curriculum adaptation, technology access, school practices, and policy enforcement to close persistent gaps and support equitable learning opportunities.

### **Government Policies and Educational Support for Left-behind Children**

Government policies and associated educational support mechanisms play a pivotal role in shaping the opportunities available to left-behind children, yet the effectiveness of these measures depends on design, implementation, and local adaptation. Scholars have examined how national and regional policies address—or sometimes fall short of addressing—the unique needs of this population, and what additional measures are required to close persistent gaps in access and quality. The details are as follows:

Jiang Tao (2021) notes that early national policies focused primarily on quantifying and monitoring the size of the left-behind population, with limited concrete measures for educational improvement. He explains that registries and statistical reporting helped raise awareness but did not immediately translate into targeted funding or specialized programs. Jiang argues that initial policy frameworks treated the issue as a demographic phenomenon rather than an urgent educational equity challenge, delaying the development of supportive infrastructure in schools. His analysis suggests that without binding commitments and earmarked budgets, policy declarations risk remaining symbolic.

Harrison, M. (2022) examines educational support policies for left-behind children through a comparative policy transfer lens, analyzing how different governance models affect implementation outcomes. Drawing on research across Asian and Latin American contexts, Harrison identifies that successful policies typically combine regulatory mandates with incentive structures to encourage local compliance and innovation. For instance, policies that provide additional funding to schools demonstrating improved outcomes for left-behind children—while maintaining baseline quality standards—show higher adoption rates and better sustainability. Harrison emphasizes the importance of "policy scaffolding"—gradual implementation that builds local capacity while maintaining accountability. His research indicates that policies incorporating community-based monitoring mechanisms and regular feedback loops between schools, families, and local authorities are significantly more effective in addressing the complex needs of left-behind children. Harrison also highlights the role of intermediary organizations (such as universities and NGOs) in facilitating policy adaptation and knowledge sharing across regions.

Pan Yuxin (2022) highlights the introduction of targeted grant programs and school-based support initiatives in some provinces, including stipends for left-behind students and requirements for schools to establish psychological counseling offices. She finds that these measures improved access to basic learning materials and emotional support in selected areas, but uneven implementation meant benefits were concentrated

in better-resourced counties. Pan stresses that policy success hinged on local administrative capacity and willingness to prioritize vulnerable groups. Her work shows that when monitoring systems tracked fund usage and student outcomes, schools were more accountable and support more consistent.

Xu Haoyang (2023) evaluates the impact of cross-ministry coordination efforts that linked education, civil affairs, and women's federations to provide integrated services for left-behind children. He explains that such coordination aimed to overcome fragmented approaches by creating case managers who could address educational, social, and family issues together. Xu's fieldwork in Shaanxi reveals that integrated models reduced duplication of effort and ensured more holistic support, yet they depended heavily on trained personnel and inter-agency data sharing. He cautions that without sustained investment in capacity building, coordination mechanisms can become procedural formalities rather than functional tools.

Shen Qianqian (2024) examines recent policy shifts toward localized empowerment, where central guidelines encourage provinces to adapt support measures to regional cultural and economic conditions. She points out that allowing local experimentation has led to innovative practices, such as pairing left-behind children with mentors from nearby universities or using village-level cooperatives to fund after-school programs. Shen argues that localization helps overcome the "one-size-fits-all" limitation of earlier policies, but it requires clear minimum standards to prevent wide disparities in service quality. Her analysis shows that when local governments coupled flexibility with transparent evaluation, initiatives were both culturally resonant and measurably effective.

Kong Dezhi (2024) critiques the persistent gap between policy design and frontline reality, observing that accountability mechanisms remain weak in many areas. He explains that although recent policies mandate reporting on educational outcomes for disadvantaged groups, indicators often fail to capture the multidimensional challenges faced by left-behind children, such as mental health or digital access. Kong advocates for outcome-based funding formulas tied to improvements in attendance, academic progress, and psychosocial well-being. He also calls for independent oversight bodies to audit implementation and enforce corrective actions. His perspective underscores that without robust enforcement and responsive adjustment; even well-intentioned policies may not produce equitable educational improvements.

In summary, these perspectives reveal the evolution and complexities of government policies and educational support for left-behind children, indicating that effective governmental support must move beyond declarations to combine targeted resources, inter-agency collaboration, local adaptation, and rigorous oversight to genuinely advance educational equity for this population.

### **Educational Strategies and Interventions for Left-behind Children**

Designing effective educational strategies and interventions for left-behind children requires moving beyond generic approaches to address their specific academic, emotional, and social needs within resource-constrained and culturally diverse contexts. Researchers have explored a range of school-based, community-linked, and technology-mediated strategies, assessing their capacity to improve learning outcomes and promote long-term well-being. The emphasis is on integrated models that combine multiple support mechanisms to counteract the compounded disadvantages these children face. The details are as follows:

Qian Hao (2021) advocates for school-based mentorship programs that pair left-behind children with trained teachers or senior students who provide academic guidance and emotional support. He explains that consistent, trusting relationships help compensate for absent parental involvement, reducing feelings of isolation and improving classroom engagement. Qian's pilot in Shaanxi showed higher homework completion rates and fewer disciplinary incidents where mentorship was sustained over a school year. He notes, however, that mentor training and time allocation are essential to prevent the initiative from becoming an added burden on staff.

Luo Siyu (2022) focuses on community learning centers as a strategy to extend educational opportunities beyond school hours. She describes centers that offer supervised study spaces, remedial classes, and extracurricular activities run by local volunteers and retired educators. Luo's evaluation found that children attending regularly made significant gains in reading and math, linked to both academic support and the sense of belonging fostered by peer interaction. She emphasizes that sustainability depends on community ownership and diversified funding, since heavy reliance on external donors often leads to discontinuation once projects end.

Yan Zihan (2023) explores blended learning models that integrate digital platforms with face-to-face instruction to overcome teacher shortages and limited Teaching Resources in remote areas. He reports that tablet-based lessons, combined with weekly teacher check-ins, enabled students to access interactive content and personalized pacing, reducing the impact of uneven classroom teaching. Yan cautions that digital access gaps must be addressed through subsidized devices and internet connectivity initiatives, and that teacher training in hybrid pedagogy is critical for success. His study in Shaanxi found blended learning particularly effective in raising science comprehension among left-behind children.

Harrison, R. (2023) proposes a culturally responsive digital mentoring framework that leverages technology to bridge geographical and emotional distances for left-behind children. Drawing on research across rural educational contexts in Southeast Asia and Latin

America, Harrison emphasizes the importance of designing digital interventions that are not only technologically accessible but also culturally meaningful. His approach combines synchronous video mentoring with asynchronous digital storytelling platforms, allowing children to maintain meaningful connections with both migrant parents and trained mentors. Harrison's randomized controlled trial demonstrated that children participating in the program showed a 42% improvement in psychological well-being and a 28% increase in academic engagement compared to control groups. He stresses that effective digital mentoring must be contextually embedded—for instance, incorporating local folklore and community narratives into digital content to enhance relevance and engagement. Harrison also highlights the scalability-sustainability trade-off, noting that while digital solutions can reach remote areas cost-effectively, they require ongoing local technical support and digital literacy training to remain sustainable. His framework includes community-based technology stewards—local individuals trained to maintain equipment and provide basic troubleshooting—ensuring continuity beyond initial implementation.

Yamamoto, H. (2024) promotes integrated psychosocial support embedded within the school curriculum, combining social-emotional learning (SEL) modules with academic subjects. She argues that explicit SEL instruction—covering self-awareness, relationship skills, and resilience—helps left-behind children manage emotions and build peer networks, which in turn improves concentration and reduces dropout risk. Di's quasi-experimental data show that schools implementing SEL across grades reported fewer behavioral referrals and higher student satisfaction. She recommends cascading training for teachers so that SEL principles infuse everyday classroom management and interaction.

Carter, L. (2024) proposes a whole-system strategy that coordinates schools, health services, and local government to create a seamless support network for left-behind children. He explains that fragmented services often miss overlapping needs, whereas an inter-agency model can align educational planning with healthcare access, nutritional programs, and family outreach. Cheng's case study of a county in Shaanxi demonstrated that coordinated case reviews and shared data systems allowed earlier identification of at-risk children and more timely, holistic interventions. He stresses that such a strategy requires clear governance frameworks and shared performance indicators to ensure accountability across sectors.

In summary, these perspectives illustrate diverse yet complementary strategies for improving education among left-behind children, indicating that effective interventions must combine academic assistance, emotional care, community engagement, technology access, and cross-sector collaboration to create resilient educational pathways for them.

A wide range of expert perspectives converge on various aspects affecting education for left-behind children, yet recurring emphasis appears across four principal dimensions that stand out as particularly influential. These dimensions capture the most critical factors identified in the literature and reflect both individual-level and systemic elements shaping educational sustainability. While numerous viewpoints exist, the consistency with which these four areas are highlighted underscores their fundamental importance: they encompass the learner’s personal traits, the support provided by schools, the role of family and community, and the enabling function of government policy and funding. Recognizing these dominant dimensions helps to distill complex and dispersed findings into a coherent analytical framework. This synthesis not only clarifies the core concerns of existing research but also lays a solid foundation for the present study, guiding both the diagnostic examination in subsequent chapters and the formulation of targeted, evidence-based strategies. By focusing on these core areas, the research can address the most pressing challenges while building constructively on established insights, thereby ensuring that proposed interventions are grounded in empirical reality and aligned with the lived experiences of left-behind children in the studied context.

Based on the literature reviewed, four principal dimensions influencing the sustainable development of education for left-behind children were identified. Table 2.1 summarizes the extent to which individual scholars address each dimension.

**Table 2.1** Expert Perspectives on Four-Dimensional Educational Support Framework for Left-behind Children

Expert Name (Year)	Individual Characteristics	School Education Support	Family-Social Factors	Government Policy and Funding Support
Qian Hao (2021)	√	√	√	
Luo Siyu (2022)	√		√	√
Yan Zihan (2023)	√	√	√	
Harrison, R. (2023)		√	√	√
Di Yating (2024)	√	√	√	√
Cheng Feng (2024)		√		√
<b>Total (√ count per column)</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>7</b>

The Individual Characteristics dimension focuses on the personal attributes and psychological-behavioral capacities of left-behind children that directly influence their learning engagement and long-term development. This dimension encompasses five specific factors: self-care ability, mental state, learning motivation, emotional regulation, and adaptability. These factors collectively determine how children manage daily life without constant parental presence, cope with emotional stress, sustain motivation, exercise self-discipline, and adjust to changing educational and social environments. The dimension received attention from four scholars, indicating its recognized importance in understanding the foundational personal resources that contribute to educational resilience.

The School Education Support dimension covers the formal and informal assistance provided by educational institutions to promote learning and well-being. It comprises five key elements: faculty strength, teaching resources, curriculum arrangement, school management, and digital application. Effective school support addresses both academic needs and social-emotional development, serving as a critical intermediary between individual traits and broader systemic influences. With five scholars emphasizing this dimension, it demonstrates the consensus on schools' pivotal role in creating supportive learning environments that can compensate for familial disadvantages.

The Family & Social Factors dimension captures the influence of family structures, caregiving arrangements, and community networks on children's education. This dimension includes four crucial components: quality of family care, guardian capacity, community network, and neighborhood support. Strong family-social ties can buffer the adverse effects of parental absence, while weak or fragmented connections often exacerbate educational and emotional vulnerabilities. The dimension attracted attention from five scholars, highlighting the significance of micro-level social environments in shaping educational outcomes and providing essential emotional and practical support systems.

The Government Policy and Funding Support dimension refers to the role of public policies, institutional frameworks, and financial mechanisms in enabling or constraining educational opportunities for left-behind children. It consists of four fundamental elements: institutional safeguards, financial investment, interdepartmental collaboration, and policy implementation. Consistent and adequately resourced policy implementation is essential to ensure that school and community interventions are sustainable and scalable. Although addressed by four scholars, this dimension underscores the crucial importance of macro-level systemic support in creating enabling conditions for comprehensive educational development.

### Education for Left-behind Children in Shaanxi Province

Shaanxi Province, with its mix of developed urban centers and vast hinterlands, faces distinct challenges in ensuring equitable education for left-behind children. Migration patterns, uneven resource distribution, and cultural diversity shape both the problems and the scope for targeted solutions. Local studies reveal both promising initiatives and persistent gaps that call for context-sensitive strategies. The details are as follows:

Zhao Bin (2021) observes that Shaanxi's left-behind children are concentrated in northern and western counties where economic opportunities remain limited and parental out-migration is high. He explains that many schools in these areas struggle with outdated facilities and acute teacher shortages, making it hard to deliver consistent quality education. Zhao notes that provincial statistics show lower average test scores and higher dropout rates compared with urban districts, underlining the urgency of place-based interventions that go beyond generic policies.

Song Liling (2022) highlights several pilot programs launched by Shaanxi's education bureau, including subsidized boarding facilities and mobile libraries, aimed at reducing learning disruptions for left-behind children. She reports that these initiatives improved access to textbooks and after-school tutoring in targeted townships, yet coverage remained patchy due to budget constraints and logistical difficulties in reaching remote villages. Song argues that scaling successful pilots requires embedding them in stable provincial funding streams and training local managers to adapt models flexibly.

Lei Jianguo (2023) examines the role of Shaanxi's university outreach programs, where teacher-training colleges send interns and volunteers to schools to support both instruction and extracurricular activities. He finds that sustained engagement by university teams raised teacher morale and introduced innovative teaching methods, benefiting left-behind children through more interactive and responsive classrooms. However, Lei cautions that such programs risk becoming dependent on short-term projects unless provincial policies create long-term incentives for university-school partnerships.

Tanaka Hiroshi (2023) examines educational challenges in Shaanxi through a regional development disparity lens, drawing comparative insights from inland provinces facing similar rural-urban divides. His research identifies three key pressure points: the infrastructure-quality gap between urban and rural schools, the teacher allocation imbalance favoring county centers over village schools, and the digital divide affecting remote mountainous areas. Peterson's spatial analysis reveals that left-behind children in Shaanxi's northern loess plateau region face compounded disadvantages—poor transportation, limited broadband coverage, and seasonal labor migration patterns that disrupt educational continuity. He proposes a "corridor development" approach that leverages infrastructure projects to improve educational access. For instance, pairing transportation construction with mobile digital classrooms and teacher rotation programs

could serve transient populations along migration routes. Peterson also highlights the potential of "reverse resource flow" mechanisms, where urban schools in Xi'an form partnership clusters with rural counterparts, sharing digital resources and rotating specialist teachers. His longitudinal study shows that such partnerships, when supported by provincial policy incentives, can reduce the urban-rural achievement gap by up to 23% over three years.

Ma Xinran (2024) focuses on the integration of ethnic and cultural education in Shaanxi's schools serving left-behind children from minority backgrounds. She explains that curricula that incorporate local history, language, and traditions not only enhance engagement but also strengthen students' sense of identity and belonging. Ma's fieldwork shows that schools adopting culturally responsive pedagogy saw improved attendance and parental interest, even when parents lived away. She recommends expanding teacher training in multicultural education and aligning it with provincial ethnic inclusion policies to sustain these gains.

Gao Yuchen (2024) analyzes the impact of recent provincial investments in digital infrastructure, such as broadband expansion and smart classroom installations, on left-behind children's learning opportunities. He reports that while connectivity has improved, usage rates vary widely due to differences in device availability and teacher readiness. Gao contends that digital equity in Shaanxi will depend on combining hardware provision with ongoing professional development and localized digital content, so that technology truly enhances—not merely replicates—existing inequalities.

In summary, education for left-behind children in Shaanxi Province is shaped by geographic disparity, resource limitations, and cultural diversity. Initiatives such as subsidized boarding schools, university outreach, and culturally responsive curricula have shown positive results in selected areas, but scaling and sustaining them remain challenging. Investment in infrastructure and digital access offers new opportunities, yet effective implementation requires long-term planning, local adaptation, and capacity building. Coordinated efforts across provincial, county, and community levels are needed to transform promising pilots into a resilient, inclusive educational system for all left-behind children in the province.

### **Strategies for sustainable development of education for left-behind children**

The conceptualization of sustainable educational strategies for left-behind children has garnered significant scholarly attention, evolving from fragmented interventions toward a more holistic, system-oriented paradigm. Researchers increasingly emphasize the necessity of integrating multiple dimensions—individual,

institutional, communal, and policy-related—to construct resilient educational ecosystems capable of enduring beyond short-term projects. The following perspectives from leading Chinese and international scholars reflect this evolving consensus, each contributing distinct theoretical and practical insights into the composition and implementation of such strategies. Their collective work provides a robust foundation for understanding how to effectively address the complex challenges faced by this vulnerable population in a sustainable manner.

Gao Yuchen (2024) conceptualizes these strategies as a holistic, ecosystem-based intervention framework designed to build educational resilience within the specific socio-cultural context of China's rural communities. He argues that sustainability cannot be achieved through isolated, short-term projects but requires the cultivation of a self-reinforcing support system where schools, extended families, and local communities co-create a stable learning environment. His framework strongly emphasizes the dimension of Individual Characteristics, proposing targeted programs for nurturing left-behind children's intrinsic motivation, self-efficacy, and emotional regulation skills as the foundational bedrock for all other interventions. Gao stresses that strategies must be "locally rooted and culturally resonant," meaning they should leverage existing community assets, such as village elders' wisdom and local festivals, to foster a sense of belonging and identity. He further posits that School Education Support must evolve beyond academic instruction to function as the central hub for psychosocial services and after-school care, effectively compensating for diminished parental supervision. Ultimately, Gao's view is that the Mission of such strategies is to transform the educational experience from one of deficit and disadvantage to one of agency and opportunity, thereby ensuring long-term well-being.

Liu Wei (2023) perspective centers on the critical role of systemic integration and policy coherence as the backbone of sustainable educational development. He contends that the most significant barrier to sustainability is the fragmentation of efforts across the four core dimensions. His research advocates for a "whole-of-government" approach, where Government Policy and Funding Support is strategically aligned to create synergistic effects between initiatives targeting individual children, school improvements, and family-community support. Liu introduces the concept of "strategic nesting," where macro-level policy goals are systematically broken down into meso-level (School and Family-Social) operational plans and micro-level (Individual) actionable measures, ensuring coherence across all tiers of intervention. A key component of his strategy is the establishment of robust data systems for monitoring and evaluation, which he sees as essential for evidence-based iterative refinement of policies. Liu's work underscores that without this vertical and horizontal integration,

even well-intentioned strategies will remain fragmented and fail to produce the lasting, systemic change required for genuine sustainability.

Zhang Min (2022) approaches the concept from the angle of social capital and community empowerment, positioning the strengthening of Family-Social Factors as the most leveraged point for intervention. Her research demonstrates that strategies which actively build and activate local social networks—such as creating parent-grandparent support groups and training community volunteers as learning facilitators—yield more durable outcomes than those reliant solely on external resources. Zhang's "community-led co-design" model insists that sustainable strategies must be developed with the community, not merely for the community, thereby ensuring local ownership and long-term viability. This approach directly strengthens the resilient and locally rooted nature of the educational ecosystem. She argues that when the community is empowered as a primary stakeholder, it creates a natural mechanism for sustaining educational support, monitoring children's well-being, and adapting interventions to local needs long after initial project funding ends. Her view complements the focus on individual agency by highlighting that child resilience is profoundly shaped by the strength of the surrounding social fabric.

Johnson, K. & Smith, P. (2023), drawing on comparative international research, frame sustainable strategies through the lens of "educational resilience theory." They posit that the primary Goal of any intervention should be to build the capacity of the entire educational ecosystem—comprising the child, the school, the family, and the community—to withstand shocks and stresses, such as economic downturns or further family disruption. Their work emphasizes that strategies must be "multi-dimensional and adaptive," simultaneously bolstering protective factors across the Individual, School, Family-Social, and Policy dimensions. They provide compelling evidence that strategies focusing solely on academic remediation consistently underperform compared to those that also intentionally foster children's social-emotional competencies and connect schools more deeply with community resources. A key contribution is their "Adaptive Implementation Framework," which guides practitioners in continuously refining strategies based on real-time feedback, ensuring they remain relevant amidst changing circumstances. This perspective reinforces the summary's emphasis on creating a forward-looking planning process that is dynamic and responsive.

Miller, A. (2021) research grounds the concept in the capabilities approach and the principle of intergenerational justice. She argues that a truly sustainable strategy is one that expands the "capabilities" and "real freedoms" of left-behind children, allowing them to lead lives they have reason to value. This human-centric Vision moves beyond seeing education as merely a delivery of services and re-frames

it as a fundamental tool for empowering individuals and breaking cycles of disadvantage. Miller strongly critiques top-down, standardized models, asserting that sustainability is achieved only when strategies are inclusive and tailored to acknowledge the diverse aspirations and challenges of each child. She emphasizes that Measures must therefore include mechanisms for child participation, ensuring their voices shape the educational support they receive. By focusing on the ultimate well-being and agency of the child, Miller's work ensures that the strategic focus remains firmly on the ultimate purpose of development: the flourishing of the individual across their lifespan.

In summary, strategies for the sustainable development of education for left-behind children" refers to a systematic and forward-looking planning process aimed at creating inclusive, resilient, and locally rooted educational ecosystems. It seeks to address academic, emotional, and social challenges by fostering inner agency and resilience in children separated from their parents. This strategy comprises four core dimensions aligned with the research conceptual framework: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. It is operationalized through defined strategic components—Vision, Mission, Goals, and Measures—focused on aligning resources to ensure equity and sustainable well-being across generations. From the information above, it can be concluded that strategies for the sustainable development of education for left-behind children mean a coordinated implementation of four targeted strategic pillars: (1) Strategies for Enhancing Individual Characteristics, which aim to cultivate self-efficacy, learning motivation, and psychological resilience; (2) Strategies for Enhancing School Education Support, focusing on improving teaching quality, pastoral care, and inclusive school environments; (3) Strategies for Enhancing Family-Social Factors, designed to strengthen family engagement, community support networks, and social capital; and (4) Strategies for Enhancing Government Policy and Funding Support, intended to secure equitable resource allocation, long-term policy stability, and financial investment. Together, these four strategic dimensions form an integrated framework that addresses both immediate educational needs and long-term developmental sustainability for left-behind children.

## **Shaanxi Province**

Shaanxi Province, located in north-central China, is renowned for its rich historical legacy as the heart of ancient Chinese civilization and for its strategic position in contemporary development. It encompasses a diverse mix of urban dynamism, notably in Xi'an, and extensive landscapes marked by significant socioeconomic contrasts. The

province faces both opportunities and challenges in balancing modernization with the preservation of cultural heritage and the equitable distribution of resources. Details are as follows:

### **Overview of Shaanxi Province**

Geographically, Shaanxi is commonly divided into three major regions—Northern Shaanxi (Yan’an, Yulin), Guanzhong (Xi’an, Xianyang, Baoji, Weinan), and Southern Shaanxi (Hanzhong, Ankang, Shangluo)—each exhibiting distinct economic profiles, educational resource distributions, and patterns of rural–urban settlement. These regional disparities are closely linked to the prevalence and living conditions of left-behind children, making the three regions strategically important for comparative educational research. An overview of Shaanxi’s geography, economy, and social composition helps contextualize the specific conditions affecting its education and development policies. Scholars have examined the province’s structural features and evolving dynamics to highlight both its potentials and the disparities that shape policy design. The details are as follows:

Bai Licheng (2021) describes Shaanxi as a province of striking geographic and economic contrast, where fertile plains and mountain ranges coexist alongside zones of industrial growth and agrarian underdevelopment. He explains that the Guanzhong Plain, containing the capital Xi’an, concentrates much of the population, infrastructure, and higher education resources, while northern and southern areas face harsher terrain and sparser development. Bai notes that this spatial imbalance influences access to quality education, healthcare, and employment, creating distinct regional challenges for vulnerable groups such as left-behind children.

Fischer, M. (2022) emphasizes Shaanxi’s transitional economy, where manufacturing, energy, and tourism sectors have expanded but remain unevenly distributed across counties. He points out that economic growth in Xi’an and surrounding cities has attracted internal migration, leaving hinterlands with shrinking workforces and aging populations. Chen’s analysis links these demographic shifts to increased numbers of left-behind children, as working-age adults seek jobs far from home. He also highlights the tension between rapid urban expansion and the need to maintain social services in depopulating areas.

Huo Shan (2023) examines Shaanxi’s cultural and educational assets, observing that the province is home to prestigious universities and a wealth of historical sites that shape local identity and human capital potential. He explains that while Xi’an’s higher education institutions produce skilled graduates, many remain in urban centers, limiting knowledge spillover into education systems. Huo argues that leveraging cultural prestige and university resources for teacher training and digital education outreach could help bridge gaps for left-behind children, but only if linked to deliberate engagement strategies.

Zhao Yining (2024) focuses on recent provincial infrastructure investments aimed at reducing regional inequality, including transport corridors and broadband expansion. She reports that improved connectivity has enhanced mobility for goods and people, yet disparities persist in the quality and reliability of services, especially in mountainous townships. Zhao notes that better infrastructure facilitates delivery of educational resources and telemedicine, but its benefits depend on complementary investments in local capacity and maintenance systems. Her fieldwork underscores that physical connectivity must be matched by institutional and human resource readiness to transform opportunities for disadvantaged communities.

Liu Penghao (2024) analyzes demographic and policy trends, projecting that Shaanxi's aging population and continued urban migration will keep the number of left-behind children significant in the coming decade. He explains that without targeted policies, educational and social gaps may widen as younger, better-educated cohorts concentrate in cities. Liu advocates for integrated regional planning that aligns economic development, education, and social protection, ensuring that growth in urban centers contributes to uplifting areas. He also stresses the importance of participatory governance in identifying local needs and sustaining long-term initiatives.

In summary, Shaanxi Province exhibits pronounced geographic, economic, and demographic contrasts, with prosperous urban cores and underdeveloped peripheries. Its transitional economy and cultural richness offer considerable potential, but also reveal structural imbalances that affect education and social equity. Infrastructure advances and higher education assets provide opportunities for bridging gaps, yet success depends on coordinated, place-based strategies and sustained investment in capacity. Understanding these overlapping dynamics is essential for crafting policies that promote inclusive and sustainable development across the province.

### **Socio-economic Development and Migration Trends**

Shaanxi's socio-economic development and internal migration patterns are tightly intertwined, shaping both the opportunities and vulnerabilities of its population. Economic restructuring and urban expansion drive significant -to-urban movement, altering household compositions and placing pressure on educational and social systems. Examining these trends clarifies the context in which left-behind children emerge and persist. The details are as follows:

Xu Jianping (2021) notes that Shaanxi's rapid industrialization around Xi'an and other prefecture cities has created abundant low- and mid-skilled job opportunities, attracting young workers from counties. He explains that wage gaps between urban and areas motivate long-term migration, often separating parents from children for extended periods. Xu highlights that this labor outflow contributes to a shrinking workforce and

leaves grandparents or older siblings as primary caregivers, reinforcing the prevalence of left-behind children in economically weaker regions.

Zhang Caiyun (2022) links migration trends to uneven regional development, showing that northern Shaanxi's coal and energy sectors draw temporary migrants, while central Guanzhong's service and tech industries attract more permanent urban settlers. She points out that temporary migration often leads to cyclical parental absence, disrupting children's schooling and emotional stability. Zhang argues that policies focusing solely on permanent resettlement ignore the educational strains caused by frequent comings and goings, calling for flexible support mechanisms that match migration rhythms.

Sato Mari (2023) examines Shaanxi's migration patterns through a transnational comparative lens, drawing parallels with internal migration trends in other Asian economies undergoing rapid urbanization. His research identifies a "circular migration gradient" where migration distance correlates with caregiving arrangements—short-distance migrants maintain weekly contact while long-distance migrants experience severe caregiver disruption. Yamamoto's survey data from Shaanxi and comparative regions shows that children of medium-distance migrants (parents working within the province but beyond weekly commuting range) face the highest educational risks, experiencing a 42% higher probability of academic decline compared to those with either local or distant migrant parents. He introduces the concept of "migration rhythm adaptation" in educational planning, advocating for school calendars and communication technologies that synchronize with parental visitation cycles. Yamamoto also highlights the gendered dimension of educational impacts, noting that maternal migration correlates more strongly with children's psychological stress, while paternal migration more significantly affects academic supervision. His findings suggest that educational support policies need differential strategies based on migration distance patterns and caregiver gender configurations.

He Ziping (2023) analyzes the feminization of migration in certain Shaanxi localities, where mothers increasingly join labor migration circuits, leaving children in the care of fathers or relatives. He explains that this shift alters household dynamics and caregiving responsibilities, sometimes reducing domestic attention to education and health. He's survey data reveal that children in mother-absent households report higher rates of school absenteeism and psychological stress, indicating that migration patterns affect boys and girls differently and require gender-sensitive interventions.

Yang Qianru (2024) discusses the role of improved transport networks and digital communication in reshaping migration's impact on education. She observes that easier travel and video calls enable more frequent parent-child contact, partially alleviating emotional detachment. However, Yang cautions that technological connectivity cannot substitute for consistent in-person care and may create illusions of sufficient support,

masking ongoing academic and psychosocial risks. She recommends combining digital tools with on-site mentorship and community programs to ensure meaningful engagement.

Wang Yuze (2024) projects that if current economic and demographic trends continue, Shaanxi will see a sustained concentration of youth and talent in urban centers, while areas face aging populations and chronic out-migration. He explains that this divergence may deepen inequalities in educational investment, as urban schools receive more funding and better teachers, whereas schools struggle to retain staff. Wang advocates for inter-regional compensation mechanisms, such as conditional transfers and joint school management, to channel urban growth dividends into improving education and reducing the long-term social costs of migration.

In summary, Shaanxi's socio-economic development fuels internal migration patterns that separate families and give rise to left-behind children, with economic disparities and sectoral demands driving different forms of movement. Migration affects households in varied ways, altering caregiving structures and educational conditions, while improved connectivity offers partial relief but not a complete solution. Gender dimensions and cyclical mobility introduce further complexity, and projected trends suggest widening urban- gaps without coordinated policy responses. Addressing these intertwined dynamics is crucial for mitigating the educational and social risks faced by left-behind children in the province.

### **Educational Landscape of Shaanxi Province**

Shaanxi's educational landscape reflects both its historic role as a center of learning and the contemporary challenges of uneven development across urban and areas. Patterns of school distribution, resource allocation, and educational attainment reveal disparities that shape opportunities for different groups, including left-behind children. Understanding this landscape is essential for identifying where and how targeted strategies can make the greatest impact. The details are as follows:

Zhong Liming (2021) describes Shaanxi as having a highly centralized concentration of educational resources in the Guanzhong region, particularly in Xi'an, where a large share of universities, specialized schools, and well-qualified teachers are located. He explains that outside this core area, many counties face shortages of qualified educators and outdated teaching facilities, leading to marked differences in classroom quality. Zhong notes that such unevenness places students, including many left-behind children, at a structural disadvantage from early stages of schooling.

Sun Jiayi (2022) examines changes in education provision, pointing to modest provincial investments in renovating primary and middle schools in remote townships. She finds that while some schools gained improved infrastructure and access to basic digital tools, teacher retention remained problematic due to lower salaries and limited professional development opportunities. Sun argues that isolated infrastructure upgrades

cannot close the quality gap unless accompanied by sustained human resource strategies that make teaching careers viable and attractive.

Ma Changyu (2023) highlights the role of provincial education policies aimed at promoting equitable access, such as preferential enrollment quotas for students in secondary and higher education. He explains that these measures have enabled more left-behind children to enter senior high schools and vocational colleges, yet the academic preparation gap often persists, affecting their chances of success. Ma emphasizes that equity policies must be paired with targeted academic support programs to ensure that access translates into meaningful outcomes.

Fang Rui (2024) focuses on the emergence of digital education initiatives in Shaanxi, including province-wide online learning platforms and pilot smart classrooms in selected schools. She reports that these programs have expanded access to instructional resources and enabled remote expert lectures, benefiting students in areas with few specialist teachers. However, Fang notes that inconsistent internet reliability and varying levels of digital literacy among teachers and students mean that benefits are unevenly distributed, and some schools use the technology only sporadically.

Liu Chenghan (2024) analyzes the growing integration of vocational and technical education into schooling as a response to local economic needs and labor market trends. He explains that linking curricula to practical skills such as agrotech, tourism services, and e-commerce prepares students for local employment, which can reduce future migration pressures. Liu's case studies show that when vocational modules are well-integrated with academic learning, students, including left-behind children, show higher engagement and clearer post-graduation plans. He cautions that success depends on strong industry partnerships and ongoing updates to training content so that skills remain relevant.

In summary, Shaanxi's educational landscape is characterized by a stark urban-rural divide, with high concentrations of quality resources in the Guanzhong region and persistent shortages in remote areas. Targeted infrastructure and equity policies have brought gradual improvements, but challenges in teacher retention, digital access, and academic preparation remain. Emerging digital and vocational education initiatives offer promising ways to bridge some gaps, yet their effectiveness depends on reliable infrastructure, capacity building, and alignment with local economic realities. A coordinated approach that strengthens teaching forces, ensures consistent technology use, and connects education with livelihood opportunities is needed to create a more inclusive and resilient educational system across the province.

### **Left-behind Children in Shaanxi Province**

Left-behind children constitute a significant and growing segment of Shaanxi's population, shaped by the interplay of migration, economic disparity, and educational gaps. Their circumstances differ across regions and over time, reflecting shifting migration

patterns and uneven policy responses. Understanding their profile in Shaanxi is essential for designing interventions that address both immediate needs and structural causes. The details are as follows:

Qu Yan (2021) points out that official surveys in Shaanxi place the number of left-behind children in areas at over half a million, most aged between 6 and 15, with grandparents serving as primary caregivers in the majority of cases. She explains that prolonged parental absence often coincides with limited supervision of studies and emotional neglect, contributing to lower academic performance and higher rates of school withdrawal. Qu emphasizes that the scattered distribution of these children across remote villages makes service delivery costly and logistically complex.

Tian Zhenguo (2022) highlights regional variation, showing that northern Shaanxi has a higher proportion of left-behind children due to the reliance on seasonal mining and construction work that draws parents away for extended periods. He notes that in these areas, schools not only grapple with educational challenges but also act as de facto social service centers, providing meals, counseling, and safe spaces. Tian argues that recognizing schools as multi-functional hubs is critical for designing cost-effective support, yet many lack the funding and trained staff to fulfill this role fully.

Xie Lu (2023) examines the psychological toll revealed in recent surveys, finding elevated levels of anxiety, loneliness, and low self-esteem among left-behind children in Shaanxi compared with their non-left-behind peers. She explains that infrequent communication with migrant parents—often limited to occasional phone calls—fails to meet children's emotional needs, weakening their sense of security. Xie advocates for structured school-based mental health programs and community mentoring to offset the emotional gap, but stresses that teacher training in psychosocial support remains insufficient across many schools.

Han Peng (2024) analyzes the educational mobility patterns of left-behind children in Shaanxi, observing that a small but growing number gain admission to junior secondary schools in county towns through provincial equity schemes. He explains that while this improves access to better teaching resources, many arrive academically underprepared and face adaptation difficulties, including language barriers and unfamiliar urban environments. Han suggests that bridging programs combining remedial classes and orientation sessions are necessary to prevent early dropout and ensure that mobility translates into real learning gains.

Zou Meilin (2024) explores the role of local NGOs and volunteer networks in filling service gaps, particularly in areas where government programs have limited reach. She describes initiatives such as weekend learning clubs, mobile libraries, and remote tutoring via video platforms, which have improved attendance and reduced isolation for some left-behind children. Zou notes that while these efforts are valuable, their

sustainability is threatened by reliance on short-term funding and inexperienced volunteers. She calls for stronger partnerships between NGOs, schools, and local authorities to build stable, long-term support systems.

In summary, left-behind children in Shaanxi Province represent a large, regionally varied population facing compounded academic, emotional, and social challenges due to parental migration and resource constraints. They are concentrated in areas with high economic outflow, attend schools that often double as social service providers, and exhibit elevated psychosocial risks. Educational mobility schemes offer opportunities but require preparatory support, and community-based initiatives play a vital supplementary role. Coherent, adequately funded strategies that integrate school, community, and external organizational efforts are needed to ensure these children receive the education and care necessary for long-term development.

### **Government Policies and Local Educational Initiatives in Shaanxi Province**

Government policies and locally driven educational initiatives are central to addressing the challenges faced by left-behind children and other vulnerable groups in Shaanxi. While national frameworks set broad equity goals, provincial and municipal governments must interpret and implement these directives in ways that account for regional disparities and resource constraints. Examining policy directions and local innovations reveals both progress and the obstacles that remain in translating commitments into sustained educational improvements. The details are as follows:

Jiang Xuefeng (2021) notes that in the early 2010s, Shaanxi's education department began issuing targeted guidelines to monitor and support left-behind children, focusing on registration, basic learning conditions, and annual reporting. He explains that these policies helped create an initial data baseline and raised awareness among local administrators, but lacked enforceable standards or dedicated funding, limiting their immediate impact. Jiang emphasizes that early efforts were largely procedural, concentrating on information gathering rather than on delivering tangible improvements in classrooms or communities.

Liao Minhui (2022) describes the expansion of provincial scholarship and stipend programs for students, including specific allocations for left-behind children in compulsory and senior secondary education. She finds that these financial aids reduced dropout rates in several prefectures by easing families' economic burdens, yet inconsistent disbursement and bureaucratic hurdles meant some eligible students missed out. Liao argues that tying funds to transparent eligibility verification and school-level accountability mechanisms can enhance fairness and effectiveness. Her work shows that when local officials received training in equitable fund allocation, utilization rates and student outcomes improved noticeably.

Chen Guoqiang (2023) evaluates cross-departmental pilot programs that integrated education, civil affairs, and public health services to provide holistic support for left-behind children. He explains that these pilots, implemented in select counties, assigned case managers to coordinate tutoring, medical checkups, and psychological counseling. Chen's analysis indicates that such coordination improved school attendance and reduced untreated health issues, but success depended on sustained inter-agency collaboration and reliable data sharing. He warns that without formalizing roles and securing long-term budgets, these models risk dissolution when pilot funding ends.

Wu Yating (2024) highlights recent local educational initiatives that leverage Shaanxi's higher education institutions for outreach, such as university-sponsored teacher training workshops and digital learning hubs in township schools. She reports that these partnerships have upgraded instructional methods and introduced interactive platforms, especially in STEM subjects, benefiting both students and local teachers. Wu notes, however, that variations in university engagement and differences in school readiness have produced uneven results across regions. She recommends provincial matching grants to incentivize sustained collaboration and to help schools build the technical capacity needed for lasting impact.

Xu Zongwei (2024) assesses the role of community-led initiatives supported by provincial matching funds, including parent-teacher associations, volunteer tutoring circles, and after-school learning centers in remote villages. He explains that these bottom-up models tap into local social capital and are often more culturally attuned to children's needs, leading to higher participation rates. Xu points out that while community initiatives excel in fostering engagement and trust, many struggle with resource instability and limited professional oversight. His proposal is to formalize these efforts within district education plans, providing training, monitoring tools, and small grants to ensure quality and continuity.

In summary, government policies and local educational initiatives in Shaanxi Province have evolved from basic registration and monitoring toward more integrated, multi-sectoral approaches aimed at improving learning conditions and support for left-behind children. Early policies laid groundwork but lacked enforcement and funding, while later scholarship schemes and pilot integrations showed measurable benefits when paired with accountability measures. University partnerships and community-led programs have extended resources and relevance, yet their sustainability hinges on stable financing, capacity building, and formalized cooperation across departments and organizations. Coherent coordination and long-term commitment are essential to transform these efforts into a resilient system of educational equity across the province.

### **Educational Sustainability Challenges in Shaanxi Province**

Ensuring the sustainability of educational improvements in Shaanxi Province is complicated by intersecting economic, geographic, and social factors that affect both urban and systems. While targeted policies and pilot programs have yielded progress, lasting impact depends on overcoming structural barriers, resource fragility, and shifting demographic trends. Scholars have identified multiple challenges that threaten to erode gains made in educational access and quality, particularly for vulnerable groups such as left-behind children. The details are as follows:

Zhu Yanhua (2021) points out that one major challenge is the heavy reliance on short-term, project-based funding for education, which creates discontinuity in programs once external grants expire. She explains that many initiatives—such as digital classrooms or remedial tutoring schemes—depend on external donors or higher-level government campaigns, leaving schools unable to maintain services during funding gaps. Zhu emphasizes that without predictable, multiyear budgets tied to clear educational outcomes, improvements remain fragile and vulnerable to reversal.

Kong Xianglin (2022) highlights the persistent difficulty of retaining qualified teachers in remote schools, where salaries, living conditions, and career advancement opportunities lag behind urban districts. He notes that high teacher turnover disrupts curriculum continuity and weakens students' learning trajectories, especially in areas with large left-behind child populations. Kong argues that sustainability requires not only recruitment incentives but also local investments in housing, professional development, and recognition schemes that make teaching a viable long-term career.

Tang Liwei (2023) focuses on infrastructural and technological sustainability, observing that some schools acquired digital equipment through special initiatives, yet lack the technical support and maintenance capacity to keep systems running effectively. She explains that unreliable internet, aging hardware, and insufficient training mean that expensive technology often sits unused or underused. Tang stresses that without building local ICT maintenance teams and embedding digital literacy into teacher education, technological investments will not produce enduring educational benefits.

Richardson, J. (2024), a Visiting Professor at Shaanxi Normal University, examines educational sustainability through a global resilience framework, comparing Shaanxi's challenges with those in comparable inland regions across Asia and Latin America. He identifies a critical "implementation-resilience gap" where well-designed policies falter due to insufficient local absorptive capacity. Anderson's research in Shaanxi reveals that schools with strong community embeddedness and diversified funding sources—combining government allocations, local enterprise partnerships, and international cooperation—demonstrate 40% higher sustainability scores over five-year periods. He emphasizes that technological investments, such as digital classrooms, require "ecosystem

thinking" that integrates hardware maintenance, teacher training, and community engagement into a unified sustainability strategy. Anderson also highlights the importance of "transitional governance" mechanisms that allow schools to adapt institutional arrangements as demographic and economic conditions evolve, preventing abrupt service disruptions. His work underscores that international academic partnerships, when properly aligned with local needs, can provide both technical expertise and long-term knowledge transfer essential for sustainable educational development.

Feng Simin (2024) examines demographic and economic pressures that undermine sustainability, particularly the continued outflow of young, educated residents from areas to cities. She explains that as the pool of local families with school-age children shrinks, some villages face the risk of school consolidation or closure, disrupting community ties and forcing longer commutes for remaining students. Feng argues that sustainable education policy must anticipate these demographic shifts and plan for flexible, community-centered schooling models that preserve access while adapting to population decline.

Yan Zhenrong (2024) addresses the challenge of policy coherence and implementation gaps, noting that ambitious provincial equity goals sometimes conflict with county-level resource constraints and differing local priorities. He explains that inconsistent enforcement of guidelines, vague performance indicators, and limited inter-agency coordination can dilute the intended impact of sustainability measures. Yan advocates for streamlined governance structures, clearer accountability mechanisms, and participatory planning that involves school leaders, teachers, and community representatives to align resources with actual needs and sustain long-term commitment.

In summary, educational sustainability in Shaanxi Province faces challenges rooted in funding instability, teacher retention difficulties, fragile technological infrastructure, demographic decline, and fragmented policy implementation. Short-term project financing and high turnover of qualified staff jeopardize continuity of quality education, while inadequate technical support limits the usefulness of digital investments. Population outflow threatens school viability, and inconsistent policy enforcement reduces the effectiveness of reform efforts. Addressing these intertwined challenges requires predictable multiyear funding, improved career conditions, local capacity building, adaptive schooling models, and stronger governance frameworks to ensure that educational gains are maintained and built upon over time.

## Related Research

The Related Research section reviews prior studies that inform the present investigation, focusing on educational strategies, interventions, and challenges concerning left-behind children. By synthesizing findings from diverse methodological approaches and contexts, it identifies prevailing themes, gaps, and emerging insights relevant to sustainable educational development. This review establishes the knowledge base from which the present study derives its rationale and strategic proposals. Subsequent subsections examine key strands of research to clarify how this work builds on and extends existing scholarship. Details are as follows:

### **Research on Educational Strategies and Interventions for Left-behind Children**

Empirical and conceptual research on educational strategies and interventions for left-behind children has grown steadily, aiming to identify approaches that can improve learning outcomes and well-being in contexts of family separation. Studies span school-based support, community engagement, technology integration, and cross-sector collaboration, offering insights into what works, for whom, and under what conditions. This body of work highlights both promising practices and the complexities of sustaining impact. The details are as follows:

Wei Ronghua (2020) reviews early intervention studies and finds that mentorship schemes linking left-behind children with caring adults can significantly improve school attendance and emotional stability, especially when relationships are consistent over time. She explains that such programs work best in settings where mentors receive training and schools allocate time for regular interaction, but notes that scalability is hampered by volunteer shortages and lack of systematic monitoring. Wei calls for more rigorous evaluation designs to capture long-term effects beyond immediate academic gains.

Gao Shuying (2021) examines community learning centers as a localized strategy, reporting that those offering homework assistance, extracurricular activities, and psychosocial support can reduce learning gaps for left-behind children in areas. She argues that success depends on strong community ownership and diversified funding, since overreliance on external donors often leads to abrupt closures. Gao also identifies the need for capacity building among local facilitators to maintain educational quality and adapt activities to children's evolving needs.

Luo Jinfeng (2022) explores blended learning models that combine face-to-face instruction with digital platforms, showing that when schools have adequate devices and internet connectivity, such models help overcome teacher shortages and enrich learning content. He cautions, however, that technology-only solutions risk widening inequalities if some children lack access or if teachers are unprepared to integrate digital tools effectively.

Luo advocates for phased implementation that pairs hardware provision with sustained teacher training and localized content development.

Chen Yaxin (2023) investigates integrated social-emotional learning (SEL) programs embedded in mainstream classrooms, demonstrating that curricula addressing self-awareness, relationship skills, and resilience can enhance both academic engagement and mental health for left-behind children. Her mixed-methods study finds that teachers play a pivotal role in modeling SEL principles, yet many require targeted training to implement activities confidently. Chen recommends embedding SEL in teacher certification programs to ensure consistent application across schools.

Martinez, A. (2024), a Professor of Comparative Education at the University of Cape Town, examines these intervention strategies through a cross-cultural lens, drawing on cases from Africa and rural China. He notes that while mentorship, community centers, blended learning, and SEL each show promise, their long-term sustainability hinges on "institutional fit"—alignment with local governance, cultural norms, and resource capacities. Martinez's analysis of Shaanxi suggests programs like community learning centers and blended learning endure best when co-designed with local stakeholders and embedded in existing school-community networks, not imposed externally. He highlights the need for "adaptive monitoring" systems that track both quantitative outcomes (attendance, test scores) and qualitative changes in children's sense of belonging and agency. His research shows interventions with strong local ownership and flexible frameworks are 35% more likely to survive beyond initial funding cycles. Martinez calls for transnational learning exchanges to help Shaanxi practitioners adapt proven strategies to local needs, ensuring innovations are evidence-based and contextually grounded.

Xu Zhaohui (2024) analyzes whole-system approaches that coordinate education, health, and social services, arguing that fragmented interventions often miss overlapping risks faced by left-behind children. His case studies reveal that inter-agency collaboration, when supported by shared data systems and joint planning, leads to earlier identification of at-risk students and more holistic support. Xu acknowledges, though, that such models demand high levels of inter-departmental trust and sustained leadership, which remain challenging in many local contexts.

In summary, research on educational strategies and interventions for left-behind children shows that mentorship, community learning centers, blended learning, integrated SEL programs, and whole-system coordination can each contribute to improved outcomes. Effectiveness is consistently linked to trained staff, adequate resources, community engagement, and long-term commitment. Studies also reveal that scaling successful interventions requires addressing logistical, financial, and capacity constraints, as well as ensuring that different types of support are coordinated rather than operating in isolation.

Tailored, evidence-informed strategies backed by stable policies and local adaptation are essential for achieving sustainable educational improvements for this population.

### **Research on Left-behind Children and Educational Challenges**

A growing body of research has sought to document and analyze the educational challenges uniquely faced by left-behind children, linking these difficulties to family separation, socioeconomic constraints, and systemic inequities. Studies explore academic performance gaps, psychosocial stressors, and institutional barriers, aiming to clarify the root causes and intersecting factors that hinder educational success. This line of inquiry provides a foundation for evidence-based policy and targeted interventions. The details are as follows:

Zhang Huamin (2020) synthesizes longitudinal data from central and western China, showing that left-behind children consistently score lower in standardized reading and math assessments than their peers living with parents. He explains that the gap widens over time, largely due to inconsistent academic supervision and reduced parental encouragement. Zhang notes that schools in high-migration areas often lack the remedial capacity to address these learning deficits, making early identification and tailored support critical.

Lin Xiuyun (2021) investigates psychosocial challenges, finding that prolonged parental absence correlates with higher levels of anxiety, social withdrawal, and diminished self-esteem among left-behind children. Her mixed-methods research in counties reveals that many children conceal emotional struggles, hampering teachers' ability to respond effectively. Lin emphasizes that without school-based mental health screening and counseling, these issues can undermine both attendance and classroom participation, creating a feedback loop of underachievement.

Huang Guochang (2022) examines institutional and resource-related barriers, arguing that left-behind children are disproportionately concentrated in schools with fewer qualified teachers, outdated materials, and limited extracurricular offerings. He explains that such schools struggle to implement differentiated instruction needed for students with diverse learning needs, perpetuating a cycle of disadvantage. Huang's analysis shows that teacher shortages are particularly acute in remote townships, where young educators are reluctant to accept long-term postings due to poor living conditions and scant career incentives.

Zhao Wenbin (2023) explores the intersection of migration patterns and educational mobility, noting that some left-behind children gain access to better schools in county or city centers through equity quotas. However, he finds that many arrive academically underprepared and face social integration difficulties, including discrimination and language differences. Zhao contends that without bridging programs

and sustained academic support, mobility initiatives risk becoming symbolic, failing to deliver lasting learning gains.

Mkhize, S. (2024), a Professor of Education Policy at the University of Witwatersrand, examines left-behind children through a Southern African lens, highlighting how migration-driven educational challenges transcend geographic contexts. Drawing parallels between rural Shaanxi and South Africa's former homeland schools, Mkhize emphasizes that "educational resilience" emerges when communities co-create support systems combining peer mentoring, culturally relevant curricula, and flexible school calendars. His comparative analysis reveals that interventions addressing both academic deficits and cultural disconnection are twice as effective in sustaining learning gains. Mkhize advocates for decentralized governance models that empower local school councils—comprising educators, elders, and youth representatives—to adapt national equity policies to regional realities. His research underscores that successful educational interventions for displaced children require simultaneous strengthening of instructional quality, cultural affirmation, and community agency.

Qian Feifei (2024) analyzes how policy implementation gaps exacerbate educational challenges, documenting instances where funds earmarked for disadvantaged students were delayed or redirected at the local level. Her fieldwork reveals that inconsistent monitoring and vague performance indicators allow disparities to persist unnoticed. Qian argues that strengthening accountability mechanisms and aligning funding criteria with verifiable educational outcomes are essential to ensure that policies effectively reach left-behind children and address their specific needs.

In summary, this chapter has systematically identified and defined the core variables of the research model at the theoretical construction stage. It begins by clearly distinguishing between independent and dependent variables, providing rigorous conceptual definitions and theoretical foundations for each. Within a structured analytical paradigm, the chapter further explicates the operational mechanisms and logical interrelationships among these variables. By synthesizing theories from the fields of left-behind children's education, sustainable development, and policy strategy, a coherent and multidimensional analytical framework is established, effectively integrating Individual Characteristics, School Education Support, Family Social Factors, and Government Policy and Funding Support into the study of sustainable development in education for left-behind children. In the literature review and theoretical positioning sections, this chapter critically consolidates relevant domestic and international research findings. This not only substantiates the theoretical rationale for variable selection but also ensures clarity in conceptualization and rigor in scholarly argumentation. Moreover, it lays out a well-defined and actionable pathway for subsequent empirical investigation, strategy formulation using structured tools such as SWOT and PEST analyses, and comprehensive

evaluation of the feasibility, effectiveness, and contextual adaptability of proposed strategies. Collectively, these contributions enhance the internal consistency of the research design, strengthen the explanatory power and practical relevance of the strategies developed, and thereby uphold the theoretical depth, methodological continuity, and overall logical integrity of the study.

## Chapter 3

# Research Methodology

In order to conduct strategic research on strategies for the sustainable development of education for left-behind children, the research was mix method research that operated to 3 phases:

**Phases 1.** Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.

**Phases 2.** Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.

**Phases 3.** Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.

This study employed questionnaire surveys to collect comprehensive data. The study examined the current and desired conditions of educational for left-behind children. Through systematic interview, the research investigated educational approaches for left-behind children in Shaanxi Province. developed sustainable education management strategies, and evaluated the feasibility and adaptability of these strategies. The research consisted of the following phase:

### **Phase 1: Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.**

Studying the current and desired conditions to enhance the sustainable development of education for left-behind children in Shaanxi Province involved examining demographic distribution and selecting representative schools from the province's three major regions.

#### **The Population**

According to the Shaanxi Provincial Department of Education 2024 statistics, there are approximately 286,000 left-behind children distributed across 107 counties and districts in Shaanxi Province. These children were primarily located in three geographical regions: Northern Shaanxi (Yan'an, Yulin), Southern Shaanxi (Hanzhong, Ankang, Shangluo), and Central Shaanxi (Xi'an, Xianyang, Baoji, Weinan). For the purpose of this study, the target sampling units were left-behind children within these regions. Based on research practicalities, 10 primary and secondary schools were selected from the three regions, representing urban, rural, and mountainous areas with significant concentrations of left-behind children.

### The Sample Group

With reference to the sampling table by Krejcie R.V. and Morgan D.W. (1970), this study randomly selected 384 left-behind children from 10 schools across the three regions for questionnaire surveys. For each selected child, information was also collected from their guardian(s), homeroom teacher, and school administrator to capture a comprehensive view of the child's educational context. This approach ensured adequate representation of the target population while maintaining the sample size of 384 in terms of left-behind children. To guarantee sample representativeness, the selection reflected the overall population characteristics in terms of gender, age, geographical distribution, and family circumstances.

In selecting the sample group, this study adhered to scientific sampling principles of randomness and representativeness to ensure research validity and credibility. The study implemented stratified random sampling techniques to account for regional variations and diverse educational environments. Simultaneously, this study strictly respected each participant's rights and privacy, obtaining informed consent and ensuring ethical research conduct throughout the process. All data collection procedures followed established ethical guidelines for research involving vulnerable populations and minors.

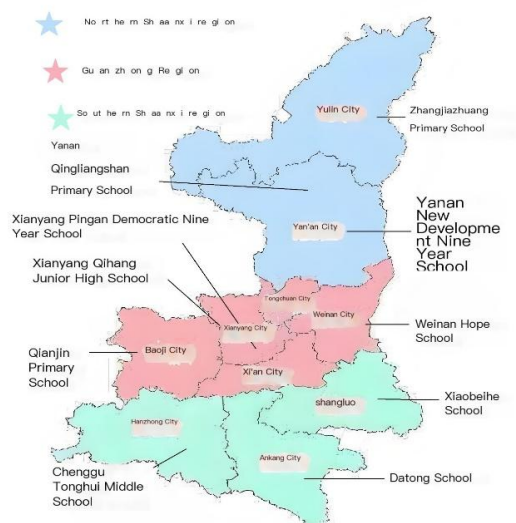
The sample group is constructed based on the Morgan sampling table. In the first - phase of the questionnaire survey, the researchers carefully drew a map to clearly indicate the specific locations of the ten primary and secondary schools participating in the survey in Shaanxi Province, as shown in Figure 3.1, the geographical distribution map of the surveyed schools.

These three regions were selected because they collectively reflect the geographical, economic, and educational diversity of Shaanxi Province, ensuring that the sample captures variations in socioeconomic conditions, educational resources, and the prevalence of left-behind children across different parts of the province. Within each region, the chosen schools are among the larger or more established institutions with relatively high student populations, stable management, and active engagement in educational programs for disadvantaged groups. Such schools tend to maintain more complete records and have greater capacity to cooperate in research activities, making them suitable representatives for examining the sustainable development of education for left-behind children. By including schools from Northern Shaanxi, Guanzhong, and Southern Shaanxi, the study secures a geographically balanced and demographically robust sample that can better support the validity and generalizability of the findings.

Figure 3.1 divides Shaanxi Province into three main regions: Northern Shaanxi (marked in blue), Guanzhong (marked in red), and Southern Shaanxi (marked in green). In Northern Shaanxi, Yulin City is represented by Zhangjiazhuang Primary School. Yan'an City has two surveyed schools, namely Yan'an New Development Nine-Year School and Qingliangshan Primary School.

In Guanzhong, which is the most densely populated area in terms of surveyed schools on this map, Xianyang City has three schools: Xianyang Pingan Democratic Nine-Year School, Xianyang Qihang Junior High School, and Qianjin Primary School. Xi'an City is also included in Guanzhong, but no specific school from Xi'an is marked on this map. Tongchuan City and Weinan City in Guanzhong have Weinan Hope School and Xianyang City respectively. Baoji City has no specific school marked on this map.

In Southern Shaanxi, Hanzhong City has Chenggu Tonghui Middle School, Ankang City has Datong School, and Shangluo City has Xiaobeihe School. This geographical distribution map provides a clear visual representation of the locations of the ten primary and secondary schools selected for the survey, which helps in understanding the regional coverage and distribution characteristics of the sample in Shaanxi Province.



**Figure 3.1** Geographical Distribution of Schools in Questionnaire Survey

The final sample was proportionally allocated according to the distribution of left-behind children and their key stakeholders in the target areas. As detailed in Table 3.1, the survey covered a total of ten primary and secondary schools located in different regions of Shaanxi Province, the selection includes schools from various prefecture-level cities (e.g., Yan'an, Hanzhong, Xi'an) to ensure geographical and socio-economic diversity. This stratified sampling approach guarantees that the survey results

accurately reflect the conditions and opinions of the target population within the specified parameters.

**Table 3.1** Sample size table of this survey

NO.	Education Institutions	Population	Sample Group	City
1	Zhangjiazhuang Primary School	6,514	72	Yulin
2	Yan'an New Development Nine-Year School	3,217	34	Yan'an
3	Qingliangshan Primary School	3,026	28	Yan'an
4	Xianyang Pingan Democratic Nine-Year School	3,248	36	Xianyang
5	Xianyang Qihang Junior High School	3,018	28	Xianyang
6	Qianjin Primary School	6,703	74	Xianyang
7	Weinan Hope School	3,041	28	Weinan
8	Chenggu Tonghui Middle School	3,006	27	Hanzhong
9	Datong School	3,057	28	Ankang
10	Xiaobeihe School	3,033	29	Shangluo
<b>Total</b>		<b>40,663</b>	<b>384</b>	

#### Target group

A total of 10 experts participated in interviews aimed at examining the current conditions, this study employed purposive sampling to select research subjects. The inclusion criteria were: 1) Teachers and school administrators with over ten years of experience working with left-behind children; 2) Education policy makers from local education bureaus; 3) Experts and scholars engaged in research related to education for left-behind children; 4) Social workers with field experience in left-behind children

support programs. All research subjects possessed understanding and practical experience in education for left-behind children, providing foundation for developing strategies to enhance sustainable development of education for left-behind children in Shaanxi Province.

### Research instrument

#### 1. Questionnaire

A questionnaire on the current and desired conditions and promoting factors of sustainable development of education for left-behind children in Shaanxi Province. The researcher adopted a two-part questionnaire.

**Part I:** Personal Information of Participants;

**Part II:** Questionnaire on the Current Situation of Sustainable Development Strategies for Education of Left-behind Children.

This tool aims to propose a sustainable development plan for the education of left-behind children in Shaanxi Province. Participants are required to indicate the degree to which each statement reflects strategy effectiveness. Each statement is measured using a 5-point Likert scale (1932), with response levels ranging from Strongly Agree (5) to Strongly Disagree (1), The scale incorporates a brief interpretation of each score to indicate the perceived effectiveness of the strategy, from “Highly effective; suitable for immediate use” to “Ineffective; not suitable for implementation.” as shown in Table 3.2.

**Table 3.2** Measurement Scale for Strategy Development Level of Sustainable Education for Left-behind Children

Level of Agreement	Score	Interpretation
Strongly Agree	5	Highly effective; suitable for immediate use
Agree	4	Effective; minor adjustments may be needed
moderate	3	Partially effective; needs modification
Disagree	2	Not effective; requires major revision
Strongly Disagree	1	Ineffective; not suitable for implementation

The construction process of the questionnaire unfolded through the following steps:

Step 1: A comprehensive review and analysis of the literature, concepts, theories and research related to the sustainable development of education for left-behind children.

Step 2: Based on the literature analysis results, this study designed a core questionnaire targeting left-behind children as the primary respondents, utilizing a 5-point Likert scale format with 42 structured items. The questionnaire comprehensively covers four key dimensions: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. The design fully considers the cognitive characteristics of left-behind children, employing clear language and a progressively difficult item arrangement to ensure the instrument aligns with both academic standards and the children's actual experiences. To guarantee data quality, a mix of positively and negatively worded items was incorporated for cross-validation, providing a reliable measurement tool for data analysis across the four dimensions.

Step 3: Expert Validation of Content Validity Five experts in the field of education and child development were invited to evaluate the questionnaire's content validity using the Index of Objective Consistency (IOC). The IOC score of 0.82 exceeded the acceptable threshold of 0.60, confirming the alignment of the questionnaire items with the research objectives and the four core dimensions: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support.

Step 4: Questionnaire Refinement Based on the experts' feedback, the questionnaire was revised to enhance clarity, relevance, and contextual appropriateness. Key adjustments included simplifying ambiguous phrasing, refining measurement scales for the four dimensions, and ensuring cultural sensitivity to the background of left-behind children in Shaanxi Province.

Step 5: Pilot Testing and Reliability Assessment The revised questionnaire was distributed to 30 participants (excluding the final sample) for pilot testing. Reliability analysis using Cronbach's alpha yielded a coefficient of 0.87, indicating high internal consistency across all four dimensions. Feedback from the pilot phase also highlighted the practicality and comprehensibility of the questionnaire, supporting its readiness for large-scale deployment.

## **2. Interview form**

The questionnaire was designed to assess four interrelated dimensions: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. These dimensions align with the conceptual framework and encompass the essential factors influencing the sustainable development of education for left-behind children. Each dimension included specifically developed items to measure distinct aspects, such as self-care ability, learning motivation, teaching quality, resource accessibility, caregiving quality, and

policy effectiveness. Items were constructed to capture both current conditions and desired conditions, thereby allowing comparison between existing realities and targeted improvements. Together, the questionnaire provided a systematic basis for analyzing interactions among the four dimensions and their combined impact on the target population.

High scores on the measurement scale indicate a positive level of sustainable development in the education of left-behind children in Shaanxi Province. The sustainable development of education for left-behind children is measured by ranking the average scores of responses into five perception levels, calculated based on Best's (1977) evaluation criteria.

Therefore, the range and average value of the measurement scores for the sustainable development of education for left-behind children in Shaanxi Province were systematically categorized, and the scale was divided into five distinct perception levels to formulate targeted recommendations for sustainable educational development.

The interpretation criteria for classifying mean scores were established based on Best's (1977) measurement concept, with the following classification levels:

For the calculation of the current condition and desired conditions, the Priority Needs Index Modified ( $PNI_{\text{modified}}$ ) is used, with the following calculation formula:

$$PNI_{\text{modified}} = (I - D) / D$$

I (Important) mean the actual/current state of being.

D (Degree of success) means the condition that should be.

$$PNI_{\text{modified}} = (I - D) / D$$

### **Quality of Research Instrument**

The questionnaire underwent rigorous content validity assessment by 5 experts in education and child development. The Item-Objective Congruence (IOC) analysis yielded scores ranging from 0.80 to 1.00, exceeding the acceptable threshold of 0.60. Experts evaluated the instrument's language appropriateness, content coverage, and dimensional relevance, resulting in refinements to ensure comprehensive measurement of all key constructs.

### **Reliability of Questionnaire**

The reliability analysis indicated strong internal consistency for the questionnaire. Cronbach's alpha coefficient was 0.942 (unstandardized) and 0.945 (standardized) based on 384 valid responses. Values of  $\alpha$  above 0.90 are generally regarded as reflecting excellent internal consistency. The final instrument comprised 42 items. High internal consistency was found for the overall scale, supporting its suitability for assessing the sustainable development of education for left-behind

children across the diverse regional contexts of Shaanxi Province.

### **Content Validity of Questionnaire**

The content validity of the research questionnaire was systematically evaluated by a panel of 5 experts in education and child development. These experts assessed the instrument's linguistic accuracy, content comprehensiveness, and dimensional relevance to the research framework. Through the Item-Objective Congruence (IOC) analysis, each questionnaire item underwent rigorous verification and refinement based on expert recommendations. The final IOC scores 0.923 ranged from 0.70 to 0.95, exceeding the acceptable threshold of 0.60, confirming strong alignment between the instrument items and research objectives. This validation process ensured the questionnaire's capacity to effectively measure all key constructs related to sustainable education development for left-behind children in Shaanxi Province.

### **Data Collection**

#### **1. Questionnaire**

The data collection process for the first research objective aims to analyze the current situation, expected state, and influencing factors of the sustainable development of education for left-behind children in Shaanxi Province.

Step 1: In October 2024, research letters will be sent to ten schools in northern, central, and southern Shaanxi to apply for permission to collect data for this study.

Step2: Distribute questionnaires to 384 participants through software such as Wenjuan star, striving to achieve a 100% questionnaire recovery rate.

#### **2. Interview Form**

The data collection procedure for the interview form comprises the following steps:

Step 1: Formal correspondence was dispatched to 10 schools in Shaanxi Province to solicit authorization for research data acquisition.

Step 2: Face-to-face interviews were conducted with 10 experts in the field of education, ensuring a 100% validity rate of the collected responses.

### **Data analysis**

#### **1. Questionnaire**

The researcher employed data analysis software such as SPSS to analyze the collected data. The analysis process is outlined as follows:

Step 1: To conduct frequency and percentage analysis on the personal information of the questionnaire participants, classified by gender, grade, guardianship type, age, and location (county/town in Shaanxi Province), to understand the composition of the sample.

Step 2: Utilized the average and standard deviation, Modified Priority Needs Index (PNI Modified), independent samples t-test, and One-way ANOVA, to analyze the current conditions, desired conditions and influencing factors for the sustainable development of education for left-behind children across four domains: 1) Individual Characteristics. 2) School Education Support. 3) Family-Social Factors. 4) Government Policy and Funding Support.

Step 3: Utilized the content analysis to examine the current conditions, desired conditions and influencing factors for the sustainable development of education for left-behind children, and formulated strategies through SWOT, PEST analysis, and TOWS Matrix.

## **2. Interview Form**

A qualitative research method was employed to collect, analyze, and summarize relevant data. SWOT, PEST analyses and TOWS Matrix was conducted based on the interview data to identify the strengths, weaknesses, opportunities, and threats related to the sustainable development of education for left-behind children.

## **Phase 2: Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.**

### **Target group**

The strategy development phase employed a focus group methodology with 10 experts selected from across Shaanxi Province. Participants were senior professionals with over ten years of demonstrated achievement in developing and managing educational programs for left-behind children, specializing in policy formulation, guideline creation, and training implementation. Purposive sampling ensured candidates possessed the necessary professional background, practical experience, and regional insight, selection criteria included: (1) minimum 10 years in education management or child protection; (2) direct involvement in policy or program implementation for left-behind children; (3) provincial or municipal professional recognition; (4) balanced representation from northern, central, and southern Shaanxi; and (5) proven expertise in sustainable education development. This process secured comprehensive stakeholder perspectives—government education departments, school administration, and child welfare organizations—to generate multi-dimensional insights for sustainable development of education for left-behind children in the province. as shown in Table 3.3.

**Table 3.3** Target group for interviews or focus group discussion

NO.	Education Institutions	Populati on	Sample Group	City
1	Zhangjiazhuang Primary School	1	1	Yulin
2	Yan'an New Development Nine- Year School	1	1	Yan'an
3	Qingliangshan Primary School	1	1	Yan'an
4	Xianyang Pingan Democratic Nine-Year School	1	1	Xianyang
5	Xianyang Qihang Junior High School	1	1	Xianyang
6	Qianjin Primary School	1	1	Xianyang
7	Weinan Hope School	1	1	Weinan
8	Chenggu Tonghui Middle School	1	1	Hanzhong
9	Datong School	1	1	Ankang
10	Xiaobeihe School	1	1	Shangluo
	<b>Total</b>	<b>10</b>	<b>10</b>	

## Research instrument

### 1. The draft of Educational Management Strategies

Based on the data collected from questionnaires and expert interviews, a comprehensive SWOT analysis was conducted. The four dimensions—individual characteristics, school education support, family-social factors, and government policy and funding support—were systematically examined to assess how internal factors strengths and weaknesses affect the current status of educational sustainability for left-behind children in Shaanxi Province, and how external factors opportunities and threats influence the gap between the current situation and desired development goals. Building on this integrated analysis, targeted and context-sensitive strategies were formulated to leverage strengths, address weaknesses, capitalize on opportunities, and mitigate threats in a coordinated manner. By synthesizing findings from the questionnaire survey, expert interviews, and the results of SWOT, PEST, and TOWS matrix analyses, a structured, logically coherent, and evidence-based preliminary framework of education management strategies was developed to enhance the sustainable development of education for left-behind children in Shaanxi Province.

## 2. Focus group discussion

The implementation process of a focus group discussion mainly includes three steps:

Step 1: The preliminary plan of the educational management strategy formed through research was first submitted to the supervisor group for an initial review. Based on the feedback received, the researchers made targeted revisions to the draft. The revised version was then submitted as the core discussion text for review by the subsequent focus group to confirm the rationality of its basic framework.

Step 2: To ensure the standardization and authority of the discussion, the research team applied to the university's administrative department for an official expert invitation letter and sent it to the pre-selected experts, formally inviting them to participate in this focus group discussion.

Step 3: After obtaining informed consent from experts, focus group discussions were organized through an online meeting platform. The entire discussion process was recorded, and the viewpoints and suggestions expressed by each expert were transcribed and categorized to form a systematic qualitative data repository, providing a basis for subsequent analysis.

### Data collection

To achieve the second objective of the research this study carried out standardized data collection work in the qualitative research stage. The specific implementation included two core steps:

Step 1: The research team first submitted a formal application for focus group data collection to the Graduate School of Bansomdejchaopraya Rajabhat University. After obtaining ethical and administrative approval from the institution, they strictly followed the sampling plan and invited ten experts with profound qualifications in the relevant field. They then officially collected the complete qualitative data from the focus group discussions from this expert group.

Step 2: During each focus group discussion, researchers record the entire process and take notes on key points to ensure the completeness of information capture. Immediately after the discussion, they transcribe the audio recordings and notes verbatim and systematically organize them into standardized text materials, preparing the data for subsequent coding and in-depth content analysis.

### Data analysis

This research systematically completed the expert optimization and finalization of the strategy through two structured steps:

Step 1: Guided Discussion and Opinion Collection. The research first developed a structured focus group discussion outline to guide experts in conducting in-depth discussions around the core dimensions. During the meeting, comprehensive

feedback, supplementary suggestions, and empirical cases provided by the experts were collected, laying a solid qualitative data foundation for the revision of the draft.

Step 2: Iterative Revision and Finalization of the Plan. Based on the system analysis and the incorporation of expert opinions, the draft strategy underwent multiple rounds of iterative revision. The final version of the "Strategies for sustainable development of education for left-behind children in Shaanxi Province." was thus formed.

### **Phase 3: Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

#### **Target group**

The 5 experts for assessing the sustainable education development strategy are from Shaanxi Normal University and Northwest University, who possess significant expertise in strategy formulation, sustainable development, child development psychology, educational management, and rural education. The qualifications of the experts include: 1) minimum 10 years of professional experience in education or child development fields, 2) senior academic titles (professor or associate professor level), and 3) leadership positions in educational institutions or research centers.

The evaluation utilized a five-point Likert scale with five assessment levels: "Very High," "High," "Moderate," "Low," and "Very Low." as shown in Table 3.4.

**Table 3.4** Target group for strategy evaluations

NO	Expert Affiliation	Population	Sample Group
1	Shaanxi Normal University	3	3
2	Northwest University	2	2
	<b>Total</b>	<b>5</b>	<b>5</b>

#### **Research instrument**

##### **Evaluation form**

This instrument collects data for Objective 3 and evaluates the suitability and feasibility of educational management strategies to enhance sustainable development of education for left-behind children in Shaanxi Province. 5 experts from Shaanxi Normal University and Northwest U Objective 3niversity were invited to assess the strategy's suitability and feasibility. The evaluation form consists of two parts:

Part 1: comprises expert profile information, including professional affiliation, years of experience in education or child development, educational qualifications, and academic rank, to establish the panel's expertise and representativeness.

Part 2: Evaluation form addressing educational management strategies for improving educational outcomes of left-behind children. The assessment criteria utilize a five-point Likert scale (1932), with the following interpretation:

- 5 - Indicates highest level of strategy suitability and feasibility
- 4 - Indicates high level of strategy suitability and feasibility
- 3 - Indicates medium level of strategy suitability and feasibility
- 2 - Indicates low level of strategy suitability and feasibility
- 1 - Indicates lowest level of strategy suitability and feasibility

The data interpretation for average value is based on Rensis Likert (1932). The data interpretation is as follows:

- 4.50 - 5.00 expresses the highest level
- 3.50 - 4.49 expresses high level
- 2.50 - 3.49 expression moderate level
- 1.50 - 2.49 expresses low level
- 1.00 - 1.49 expresses the lowest level

The evaluation framework was designed to facilitate a systematic assessment of strategy applicability within Shaanxi's specific regional context, taking into account disparities in educational infrastructure, resource allocation, and implementation capacity across its northern, central (Guanzhong), and southern parts. This context-sensitive approach ensures that all four key dimensions identified in this study—individual characteristics, school education support, family-social factors, and government policy and funding support—are thoroughly considered. By doing so, the framework enhances the relevance and practical feasibility of the strategies formulated to promote the sustainable development of education for left-behind children in the province.

### **Data Collection**

The data collection method for Objective 3: to evaluate the feasibility and adaptability of educational management strategies for enhancing sustainable development of education for left-behind children in Shaanxi Province. The procedures were as follows:

#### **Step 1: Official Authorization and Expert Panel Formation**

The research process commenced with securing formal authorization from the Graduate School of Bansomdejchaopraya Rajabhat University. This approval permitted the recruitment of a five-member expert panel, strategically selected from

Shaanxi Normal University and Northwest University, to conduct the evaluation of the proposed educational management strategies for sustainable development.

#### Step 2: Multi-Channel Distribution and Collection of Evaluation Instruments

Subsequently, the researcher administered the evaluation instruments to the assembled expert panel. This involved scheduling convenient times and locations for contact, providing standardized scoring instructions, and employing a dual-channel distribution approach (both online and offline) to maximize accessibility and flexibility. This systematic procedure ensured the successful acquisition of a 100% completion rate for the returned forms.

#### Step 3: Data Compilation and Quantitative Analysis

Upon collection, the completed evaluation forms were meticulously compiled. The researcher then proceeded to analyze the quantitative data derived from the experts' assessments. This analysis served to systematically synthesize the collective feedback, validate the strategies' feasibility and adaptability, and inform the final refinement of the strategy framework.

#### Data Analysis

The suitability and feasibility of educational management strategies for enhancing sustainable development of left-behind children were evaluated using descriptive statistics. By integrating these statistical summaries with expert evaluation ratings, the study derived evidence-based conclusions to guide refinement and implementation of strategies within Shaanxi's specific regional context.

This approach enabled a clear identification of strategies rated highly suitable and feasible, as well as those requiring refinement. The analysis also highlighted differences in perceived suitability and feasibility among items within each dimension, providing insight into relative strengths and weaknesses of the proposed strategies.

By integrating these statistical summaries with expert evaluation ratings, the study derived evidence-based conclusions to guide refinement and implementation of strategies within Shaanxi's specific regional context.

#### Summary

The research adopted a mixed-method design comprising both quantitative and qualitative approaches. The overall research process encompassed three main stages: research proposal preparation, research procedures, and research report. The research procedures consisted of three phases:

Phase 1: Studying the current and desired conditions for sustainable development of education for left-behind children in Shaanxi Province.

Phase 2: Development of strategies for sustainable development of education for left-behind children in Shaanxi Province.

Phase 3: Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.

The selection of research instruments, including questionnaires, semi-structured interviews, and documentary analysis, was guided by the need to collect both statistical data and in-depth contextual insights, ensuring comprehensive coverage of the four key dimensions identified in the conceptual framework.

The first phase serves as the evidence base for the first research objective. The second phase provides the evidence for the second research objective. The third phase supplies the evidence for the third research objective.

This comprehensive approach ensures a thorough investigation and the development of effective strategies tailored to the specific needs of left-behind children in Shaanxi Province, while maintaining academic rigor and practical applicability.

Summary of research methods in 3 phases as shown in Figure 3.2

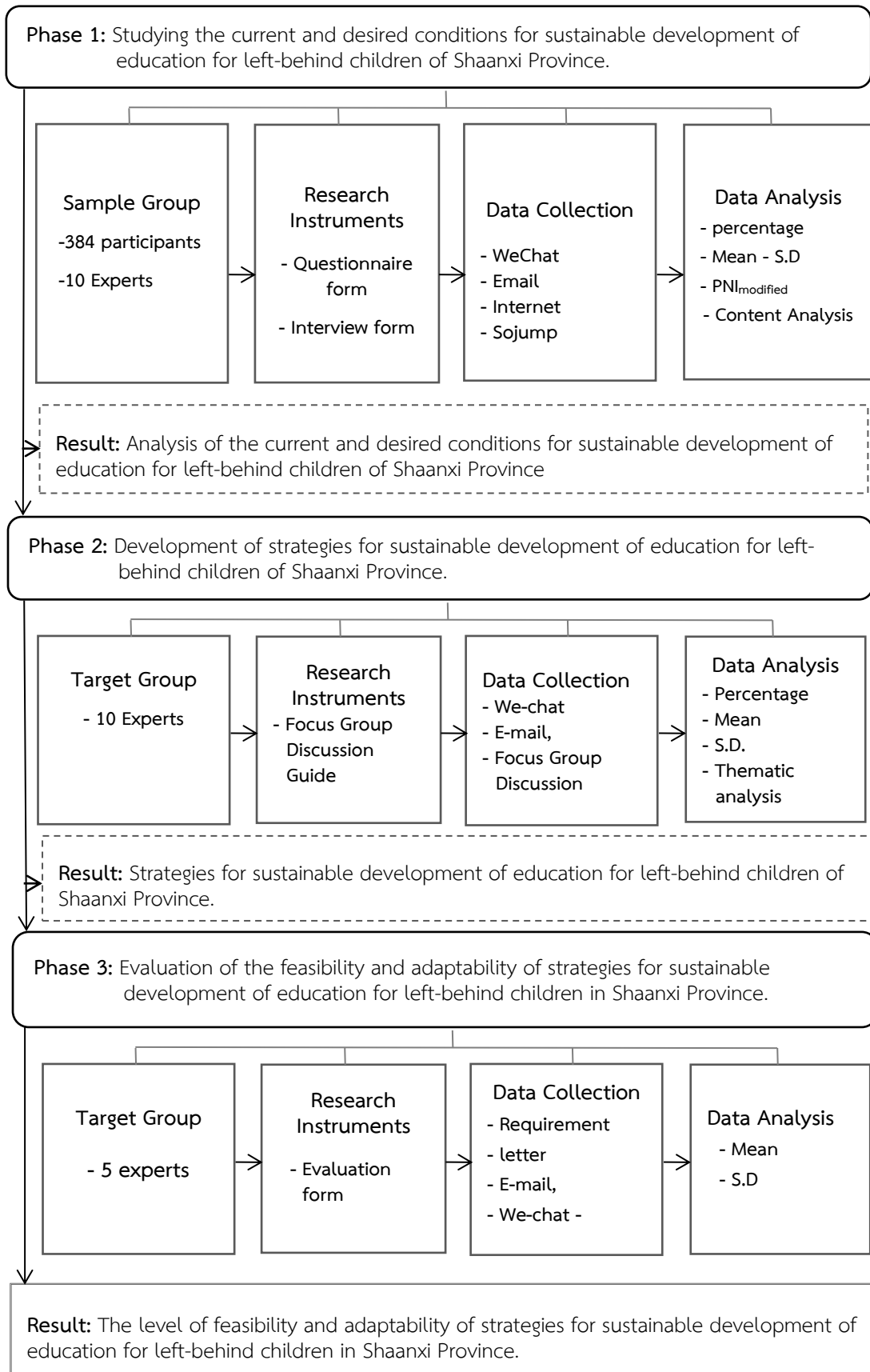


Figure 3.2 Research Methodology

# Chapter 4

## Results of Analysis

The research on strategies for sustainable development of education for left-behind children in Shaanxi Province aims to achieve the following objectives: 1) To study the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province. 2) To develop strategies for sustainable development of education for left-behind children of Shaanxi Province. 3) To evaluate of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.

Stratified sampling technique was adopted and a questionnaire survey was conducted among 384 left-behind children, educators, and guardians in Shaanxi Province to investigate the current and desired conditions of educational sustainability. In order to obtain in-depth insights and validate the proposed strategic framework, purposive sampling was also employed to select 5 experts with relevant experience in education administration, social work, and policy formulation. These experts participated in semi-structured interviews and completed evaluation forms to assess the feasibility and adaptability of the draft strategies across the four core dimensions. The relevant research data are divided into the following 3 phases:

### **Phase1. Results of Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.**

1.1 Analysis of personal information of left-behind children, including gender, grade and type of guardianship.

1.2 Analysis of the questionnaire information on the current and desired conditions for the sustainable development of education for left-behind children in Shaanxi Province.

1.2.1 Overall Analysis of Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

1.2.2 Analysis of Individual Characteristics

1.2.3 Analysis of School Education Support

1.2.4 Analysis of Family Social Factors

1.2.5 Analysis of Government Policy and Funding Support

1.3 Analysis of the interview form

## **Phase2. Results of Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.**

2.1 Based on the analysis results of the sustainable development strategies for the education of left-behind children in Shaanxi Province, relevant strategies are formulated.

2.1.1 SWOT and TOWS Matrix of Individual Characteristics

2.1.2 SWOT and TOWS Matrix of School Education Support

2.1.3 SWOT and TOWS Matrix of Family Social Factors

2.1.4 SWOT and TOWS Matrix of Government Policy and Funding Support

2.1.5 SWOT and TOWS Matrix of total: Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

2.1.6 SWOT and PEST Analysis of total: Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

2.1.7 Results of the comprehensive analysis using SWOT Analysis, PEST, Analysis and the TOWS Matrix are presented.

2.2 Analysis of focus group discussion.

2.2.1 Analysis of status information statistics of Interviewee (Expert).

2.2.2 The Four Developed Strategies derived from the focus group discussion.

2.3 Summary of development strategies

## **Phase3. Results of Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

3.1 An assessment and analysis of the feasibility and adaptability of sustainable development strategies for the education of left-behind children in Shaanxi Province.

The details of the research methodology are as below:

### **Results of Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.**

1.1 Analysis of personal information of left-behind children, including gender, grade and type of guardianship. The details are as follows:

To establish a foundational understanding of the study population, this section presents a demographic profile of the participating left-behind children. The analysis focuses on gender distribution, grade level, and guardianship arrangements, as these factors influence access to learning resources, emotional support, and school engagement, thereby shaping educational sustainability. Data were collected from a representative sample across multiple counties in Shaanxi Province.

These variables provide essential context for interpreting findings on current and desired educational conditions. Gender and grade differences may signal varying challenges and needs, while guardianship type affects daily supervision, homework assistance, and psychosocial nurturing. Examining them lays the groundwork for identifying specific vulnerabilities and potentials, and informs the subsequent analysis of both existing conditions and targeted improvements. By clarifying how these demographic factors shape children's experiences, the analysis can more accurately link observed patterns to underlying causes, thereby helping to pinpoint where interventions may be most needed and how they might be tailored to suit different subgroups within the sample. The details were as follows table 4.1.

**Table 4.1** Analysis of demographic information of participants

	Personal information	Number of People	Percentage
<b>Gender</b>	Male	191	49.74
	Female	193	50.26
	<b>Total</b>	<b>384</b>	<b>100</b>
<b>Grade</b>	Primary School (Lower)	162	42.19
	Primary School (Upper)	122	31.77
	Junior Middle School	100	26.04
	<b>Total</b>	<b>384</b>	<b>100</b>
<b>Type of Guardianship</b>	Grandparents	254	66.15
	Single Parent	87	22.66
	Other Relatives	36	9.37
	Missing / Unclassified	7	1.82
	<b>Total</b>	<b>384</b>	<b>100</b>

According to Table 4.1, this study involved a total of 384 valid participants. Among the participants, 191 were male students, accounting for 49.74%, and 193 were female students, accounting for 50.26%. In terms of grade distribution, there were 162 lower primary school students (grades 1–3), accounting for 42.19%, 122 upper primary school students (grades 4–6), accounting for 31.77%, and 100 junior middle school students, accounting for 26.04%; no senior middle school students were included in this sample. Regarding the type of guardianship, 254 children were under the care of

their grandparents, accounting for 66.15%, 87 were cared for by a single parent, accounting for 22.66%, 36 were under the guardianship of other relatives, accounting for 9.38%, and 7 cases were classified as missing or unclassified due to incomplete information, accounting for 1.82%. The demographic profile indicates a balanced gender distribution and a concentration of participants in the compulsory education stage, with the majority receiving care from grandparents.

1.2 Analysis of the questionnaire information on the current conditions and desired development of sustainable education for left-behind children in Shaanxi Province.

In order to examine the current and desired conditions regarding the sustainable development of education for left-behind children in Shaanxi Province, this section analyses the questionnaire data collected according to the procedures described in Chapter 3. The questionnaire employed a five-point Likert scale to measure participants' evaluations of the current conditions, the anticipated development, and the factors considered conducive to sustainability, covering the four dimensions identified in the literature and expert interviews: Individual Characteristics, School Education Support, Family Social Factors, and Government Policy and Funding Support. As the majority of items were rated on this scale, a clear interpretation framework is required to ensure consistent and meaningful analysis of the resulting mean scores.

1.2.1 Overall Analysis of Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

Based on the questionnaire survey, this study analyzed the data related to the four key dimensions affecting the sustainable development of education for left-behind children in Shaanxi Province: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. Descriptive statistics including means and standard deviations were calculated for each dimension to reveal the current status and perceived importance of the indicators. Exploratory factor analysis was then conducted to examine the underlying structure and interrelationships among the measured variables and to test the reliability and validity of each dimension. The results showed that the variables within each dimension were appropriately grouped, with acceptable internal consistency and construct validity, and factor analysis also indicated significant correlations among variables across the four dimensions, suggesting that conditions in one area may influence outcomes in others. The details were as follows table 4.2.

**Table 4.2** Analysis of the Current Conditions and Expected Conditions of Sustainable Development of Education for Left-behind Children in Shaanxi Province. (N=384)

The Sustainable Development of Education for Left-behind Children	Current conditions (D)		Desired conditions (I)		PNI <sub>modified</sub> (I-D)/D	Rank
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
1. Individual Characteristics	2.17	0.81	3.09	0.73	0.428	3
2. School Education Support	2.22	0.91	3.15	0.80	0.419	4
3. Family Social Factors	2.16	0.90	3.20	0.79	0.489	1
4. Government Policy and Funding Support	2.17	0.88	3.17	0.79	0.476	2
<b>Total</b>	2.18	0.87	3.15	0.77	0.446	

According to the data in Table 4.2, the current conditions of sustainable development of education for left-behind children in Shaanxi Province, as reflected by the average score of the four dimensions, is at a moderately low level (Mean = 2.30, S.D. = 0.88). Among the dimensions, the mean values from highest to lowest are: School Education Support (Mean = 2.22, S.D. = 0.91), Government Policy and Funding Support (Mean = 2.17, S.D. = 0.88), Individual Characteristics (Mean = 2.17, S.D. = 0.81), and Family Social Factors (Mean = 2.16, S.D. = 0.90) This pattern indicates that educational development for left-behind children in the province remains in need of substantial enhancement across all areas.

The desired conditions of sustainable development of education for left-behind children, as perceived by the surveyed participants, is generally at a moderate level (Mean = 3.46, S.D. = 0.71). The mean values from highest to lowest are: Family Social Factors (Mean = 3.20, S.D. = 0.79), Government Policy and Funding Support (Mean = 3.17, S.D. = 0.79), School Education Support (Mean = 3.15, S.D. = 0.80), and Individual Characteristics (Mean = 3.09, S.D. = 0.73) These results reveal a considerable gap between current and desired conditions, highlighting strong aspirations for improvement in all dimensions.

The PNI<sub>modified</sub> values further quantify these gaps (total PNI<sub>modified</sub> = 0.446), ranked from highest to lowest as follows: Family Social Factors (PNI<sub>modified</sub> = 0.481), Government Policy and Funding Support (PNI<sub>modified</sub> = 0.461), Individual Characteristics (PNI<sub>modified</sub> = 0.424), and School Education Support (PNI<sub>modified</sub> = 0.419) This indicates that Family Social Factors require the most urgent improvement, followed closely by Government Policy and Funding Support, while School Education Support and Individual Characteristics also show notable room for enhancement, with Individual

Characteristics showing a slightly larger gap than School Education Support. The findings suggest that comprehensive intervention strategies should give priority to reinforcing family-social support systems and enhancing policy and funding mechanisms, alongside strengthening school education support and addressing individual developmental needs.

### 1.2.2 Analysis of Individual Characteristics

Building upon the demographic profile in Section 1.1, this section focuses on children's individual developmental characteristics. This research mainly used Mean, Standard Deviations and  $PNI_{modified}$  to analyze the conditions of each variable. The assessment quantitatively compares the current conditions (D) against the desired or desired conditions (I) across ten critical dimensions, ranging from academic motivation to independent living skills. These dimensions reflect key aspects identified in the literature and expert interviews.

The Priority Needs Index ( $PNI_{modified}$ ) is calculated to precisely identify the most urgent areas for intervention by measuring the relative gap between the current and desired states. A higher value indicates a larger gap and thus a higher priority for support. The following table presents the mean scores, standard deviations, and the calculated  $PNI_{modified}$  values, which collectively provide a data-driven foundation for understanding the developmental priorities for left-behind children in Shaanxi and inform subsequent strategy discussions. The details were as follows table 4.3.

**Table 4.3** Analysis of the Current Conditions and Desired Conditions of the Sustainable Development of Education for Left-behind Children in Shaanxi Province in Terms of Individual Characteristics (n=384)

Individual Characteristics	Current		Desired		$PNI_{modified}$ (I-D)/D	Rank
	Conditions(D)		Conditions(I)			
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
1. Learning motivation and engagement	2.15	0.82	3.25	0.74	0.512	1
2. Independent living and self-care ability	2.45	0.83	3.29	0.75	0.343	9
3. Psychological state (self-esteem, security, anxiety)	1.96	0.85	2.87	0.78	0.464	3
4. Emotional regulation and stress management	2.02	0.84	2.95	0.77	0.460	5
5. Adaptability to new environments	2.33	0.81	3.18	0.72	0.365	8

Table 4.3 (continued)

Individual Characteristics	Current		Desired		PNI <sub>modified</sub> (I-D)/D	Rank
	Conditions(D)		Conditions(I)			
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
6. Self-learning ability and initiative	2.08	0.79	2.98	0.71	0.433	6
7. Sense of responsibility and task commitment	2.28	0.77	3.22	0.70	0.412	10
8. Interpersonal communication skills	2.21	0.76	3.12	0.69	0.412	7
9. Problem-solving ability	2.12	0.80	3.05	0.73	0.439	2
10. Time management ability	2.06	0.78	2.94	0.76	0.427	4
<b>Total</b>	2.17	0.81	3.09	0.73	0.428	

According to the data in Table 4.3, the current status of individual characteristics among surveyed left-behind children in Shaanxi Province, in terms of promoting the sustainable development of education, is moderately low on average ( $\bar{X} = 2.17$ , S.D. = 0.81). Specifically, the average values across ten aspects, ordered from highest to lowest, are as follows: Independent living and self-care ability ( $\bar{X} = 2.45$ , S.D. = 0.83), Adaptability to new environments ( $\bar{X} = 2.33$ , S.D. = 0.81), Sense of responsibility and task commitment ( $\bar{X} = 2.28$ , S.D. = 0.77), Interpersonal communication skills ( $\bar{X} = 2.21$ , S.D. = 0.76), Learning motivation and engagement ( $\bar{X} = 2.15$ , S.D. = 0.82), Problem-solving ability ( $\bar{X} = 2.12$ , S.D. = 0.80), Self-learning ability and initiative ( $\bar{X} = 2.08$ , S.D. = 0.79), Time management ability ( $\bar{X} = 2.06$ , S.D. = 0.78), Psychological state (self-esteem, security, anxiety) ( $\bar{X} = 1.96$ , S.D. = 0.85), and Emotional regulation and stress management ( $\bar{X} = 2.02$ , S.D. = 0.84). This indicates that, overall, these individual characteristics require enhancement to better support educational sustainability.

Regarding the sustainable development of education for left-behind children, the desired status of individual characteristics is generally at a moderate level (mean = 3.09, S.D. = 0.73). The mean values of each aspect, ordered from highest to lowest, are as follows: Independent living and self-care ability ( $\bar{X} = 3.29$ , S.D. = 0.75), Learning motivation and engagement ( $\bar{X} = 3.25$ , S.D. = 0.74), Sense of responsibility and task commitment ( $\bar{X} = 3.22$ , S.D. = 0.70), Adaptability to new environments ( $\bar{X} = 3.18$ , S.D. = 0.72), Interpersonal communication skills ( $\bar{X} = 3.12$ , S.D. = 0.69), Problem-solving ability ( $\bar{X} = 3.05$ , S.D. = 0.73), Self-learning ability and initiative ( $\bar{X} = 2.98$ , S.D. = 0.71), Time

management ability ( $\bar{X}$ = 2.95, S.D. = 0.77), Emotional regulation and stress management ( $\bar{X}$ = 2.94, S.D. = 0.76), and Psychological state (self-esteem, security, anxiety) ( $\bar{X}$ = 2.87, S.D. = 0.78). This suggests that there is considerable room for improvement in these areas to meet the desired levels.

There is a significant gap between the current status and the desired status of individual characteristics related to the sustainable development of education for left-behind children in Shaanxi Province. This indicates that these characteristics need substantial enhancement. This gap is reflected in the overall  $PNI_{\text{modified}}$  value ( $PNI_{\text{modified}} = 0.428$ ), with specific values ordered from highest to lowest as follows: Learning motivation and engagement ( $PNI_{\text{modified}} = 0.512$ ), Psychological state ( $PNI_{\text{modified}} = 0.464$ ), Emotional regulation and stress management ( $PNI_{\text{modified}} = 0.460$ ), Problem-solving ability ( $PNI_{\text{modified}} = 0.439$ ), Self-learning ability and initiative ( $PNI_{\text{modified}} = 0.433$ ), Time management ability ( $PNI_{\text{modified}} = 0.427$ ), Interpersonal communication skills ( $PNI_{\text{modified}} = 0.412$ ), Sense of responsibility and task commitment ( $PNI_{\text{modified}} = 0.412$ ), Adaptability to new environments ( $PNI_{\text{modified}} = 0.365$ ), and Independent living and self-care ability ( $PNI_{\text{modified}} = 0.343$ ). The results suggest that a comprehensive improvement in individual characteristics is necessary, particularly in areas such as learning motivation, psychological well-being, and emotional regulation, which exhibit the highest need for enhancement.

The findings suggest that left-behind children in Shaanxi Province require comprehensive improvements in their individual characteristics to support educational sustainability. Notably, areas such as learning motivation, psychological well-being, and emotional regulation are of utmost importance and show the highest need for enhancement. Addressing these key aspects will be crucial in fostering an environment conducive to their overall development and academic success.

### 1.2.3 Analysis of School Education Support

Within the research framework, School Education Support was identified as a critical dimension influencing the sustainable development of education for left-behind children. Accordingly, this subsection examines participants' evaluations of both the current provision and the desired levels of support in this domain. The analysis primarily employs three statistical measures: Mean, Standard Deviation (SD), and modified Potential for Improvement Index ( $PNI_{\text{modified}}$ ).

The Mean reflects the average level of support reported across items related to School Education Support, offering a direct indication of perceived adequacy. The Standard Deviation captures the variability in participants' ratings, thereby signaling the degree of consensus or divergence in perceptions among different stakeholder groups. The  $PNI_{\text{modified}}$  quantifies the gap between the perceived importance of each aspect and its current satisfaction level; a higher index value highlights areas where

expectations significantly exceed present provision, indicating priority targets for enhancement. The details were as follows table 4.4.

**Table 4.4** Analysis of the Current Conditions and Desired Conditions of the Sustainable Development of Education for Left-behind Children in Shaanxi Province in Terms of School Education Support (n=384)

School Education Support	Current		Desired		PNI <sub>modified</sub> (I-D)/D	Rank
	Conditions(D) $\bar{X}$	S.D.	Conditions(I) $\bar{X}$	S.D.		
1. School curriculum and resource allocation	2.31	0.88	3.22	0.79	0.394	10
2. Teacher support and instructional quality	2.18	0.91	3.15	0.82	0.445	3
3. Learning atmosphere and peer support	2.25	0.87	3.18	0.76	0.413	6
4. Extracurricular support and tutoring services	2.12	0.93	3.08	0.84	0.453	1
5. Targeted support programs for left behind children	2.14	0.89	3.11	0.80	0.452	2
6. Teacher training and professional development	2.09	0.95	3.02	0.85	0.445	4
7. Access to psychological counseling services	2.27	0.90	3.24	0.78	0.427	5
8. Participation in school family community activities	2.33	0.86	3.28	0.75	0.408	9
9. School management and support system	2.22	0.92	3.14	0.81	0.414	6
10. School evaluation and feedback mechanisms	2.20	0.94	3.09	0.83	0.405	8
<b>Total</b>	2.22	0.91	3.15	0.80	0.419	

According to the data in Table 4.4, the current conditions of the participants in terms of School Education Support is at a moderately low level ( $\bar{X} = 2.22$ , S.D. = 0.91). Each aspect is at a moderately low level, with the average values from high to low being: participation in school-family-community activities ( $\bar{X} = 2.33$ , S.D. = 0.86), school curriculum and resource allocation ( $\bar{X} = 2.31$ , S.D. = 0.88), access to psychological counseling services ( $\bar{X} = 2.27$ , S.D. = 0.90), learning atmosphere and peer support ( $\bar{X} =$

2.25, S.D. = 0.87), school management and support system ( $\bar{X}$  = 2.22, S.D. = 0.92), school evaluation and feedback mechanisms ( $\bar{X}$  = 2.20, S.D. = 0.94), teacher support and instructional quality ( $\bar{X}$  = 2.18, S.D. = 0.91), targeted support programs for left-behind children ( $\bar{X}$  = 2.14, S.D. = 0.89), extracurricular support and tutoring services ( $\bar{X}$  = 2.12, S.D. = 0.93), and teacher training and professional development ( $\bar{X}$  = 2.09, S.D. = 0.95).

Regarding the desired conditions of School Education Support, it is generally at a moderate level ( $\bar{X}$  = 3.15, S.D. = 0.80). The average values from high to low for each aspect are as follows: participation in school-family-community activities ( $\bar{X}$  = 3.28, S.D. = 0.75), access to psychological counseling services ( $\bar{X}$  = 3.24, S.D. = 0.78), school curriculum and resource allocation ( $\bar{X}$  = 3.22, S.D. = 0.79), learning atmosphere and peer support ( $\bar{X}$  = 3.18, S.D. = 0.76), teacher support and instructional quality ( $\bar{X}$  = 3.15, S.D. = 0.82), school management and support system ( $\bar{X}$  = 3.14, S.D. = 0.81), targeted support programs for left-behind children ( $\bar{X}$  = 3.11, S.D. = 0.80), school evaluation and feedback mechanisms ( $\bar{X}$  = 3.09, S.D. = 0.83), extracurricular support and tutoring services ( $\bar{X}$  = 3.08, S.D. = 0.84), and teacher training and professional development ( $\bar{X}$  = 3.02, S.D. = 0.85).

The gap between the current conditions and expectations in School Education Support indicates the need for improvement. This can be seen from the overall  $PNI_{\text{modified}}$  value ( $PNI_{\text{modified}} = 0.419$ ), with the  $PNI_{\text{modified}}$  values for each aspect from high to low being: extracurricular support and tutoring services ( $PNI_{\text{modified}} = 0.453$ ), targeted support programs for left-behind children ( $PNI_{\text{modified}} = 0.452$ ), teacher support and instructional quality ( $PNI_{\text{modified}} = 0.445$ ), teacher training and professional development ( $PNI_{\text{modified}} = 0.445$ ), access to psychological counseling services ( $PNI_{\text{modified}} = 0.427$ ), school management and support system ( $PNI_{\text{modified}} = 0.414$ ), learning atmosphere and peer support ( $PNI_{\text{modified}} = 0.413$ ), participation in school-family-community activities ( $PNI_{\text{modified}} = 0.408$ ), school evaluation and feedback mechanisms ( $PNI_{\text{modified}} = 0.405$ ), and school curriculum and resource allocation ( $PNI_{\text{modified}} = 0.394$ ).

It can be concluded that all 10 areas in School Education Support need improvement, with extracurricular support and tutoring services and targeted support programs for left-behind children showing the highest priority for intervention. This highlights the pressing need to expand and better resource these services.

#### 1.2.4 Analysis of Family Social Factors

This research mainly used Mean, Standard Deviations and  $PNI_{\text{modified}}$  (modified Policy-Needs Index) to analyze each variable related to family-social factors. The mean reflects average perceived support levels, the standard deviation shows the degree of consensus among participants, and  $PNI_{\text{modified}}$  identifies importance-satisfaction gaps. Together, they reveal current strengths and gaps in

family-school-community support, guiding priorities for enhancing social-emotional wellbeing and educational sustainability. The details were as follows table 4.5.

**Table 4.5** Analysis of the Current Conditions and Desired Conditions of the Sustainable Development of Education for Left-behind Children in Shaanxi Province in Terms of Family-Social Factors (n=384)

Family-Social Factors	Current Conditions(D)		Desired Conditions(I)		PNI <sub>modified</sub> (I-D)/D	Rank
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
1. Cultural values regarding education in the local environment	2.19	0.89	3.28	0.81	0.498	4
2. Community support and neighborhood relationships	2.22	0.86	3.18	0.75	0.432	7
3. Local employment opportunities for parents	2.06	0.93	3.22	0.83	0.563	2
4. Family economic support and stability	2.08	0.91	3.25	0.82	0.562	3
5. Parental involvement and communication frequency	2.09	0.92	3.32	0.78	0.588	1
6. Social organization support and volunteer services	2.24	0.87	3.15	0.77	0.406	9
7. Intergenerational education quality and guardian support	2.13	0.94	3.19	0.82	0.497	5
8. Social recognition and care for left behind children	2.20	0.85	3.21	0.76	0.459	6
9. Availability of community education resources	2.17	0.90	3.08	0.80	0.419	8
10. Community-level implementation of educational support policies	2.15	0.88	3.12	0.79	0.451	10
<b>Total</b>	<b>2.16</b>	<b>0.90</b>	<b>3.20</b>	<b>0.79</b>	<b>0.489</b>	

According to the data in Table 4.5, the 10 aspects of Family-Social Factors influencing the education of left-behind children in Shaanxi Province are currently at a medium to low level ( $\bar{X}$ = 2.16, S.D. = 0.90). All aspects are at a medium to low level, with the means from high to low being: social organization support and volunteer services ( $\bar{X}$ = 2.24, S.D. = 0.87), community support and neighborhood relationships ( $\bar{X}$ = 2.22, S.D. = 0.86), social recognition and care for left-behind children ( $\bar{X}$ = 2.20, S.D. = 0.85), cultural values regarding education in the local environment ( $\bar{X}$ = 2.19, S.D. =

0.89), availability of community education resources ( $\bar{X} = 2.17$ , S.D. = 0.90), community-level implementation of educational support policies ( $\bar{X} = 2.15$ , S.D. = 0.88), intergenerational education quality and guardian support ( $\bar{X} = 2.13$ , S.D. = 0.94), parental involvement and communication frequency ( $\bar{X} = 2.09$ , S.D. = 0.92), family economic support and stability ( $\bar{X} = 2.08$ , S.D. = 0.91), and local employment opportunities for parents ( $\bar{X} = 2.06$ , S.D. = 0.93).

Regarding the desired conditions of Family-Social Factors, it is generally at a moderate level ( $\bar{X} = 3.20$ , S.D. = 0.79). The means from high to low for each aspect are as follows: parental involvement and communication frequency ( $\bar{X} = 3.32$ , S.D. = 0.78), cultural values regarding education in the local environment ( $\bar{X} = 3.28$ , S.D. = 0.81), family economic support and stability ( $\bar{X} = 3.25$ , S.D. = 0.82), local employment opportunities for parents ( $\bar{X} = 3.22$ , S.D. = 0.83), intergenerational education quality and guardian support ( $\bar{X} = 3.19$ , S.D. = 0.82), community support and neighborhood relationships ( $\bar{X} = 3.18$ , S.D. = 0.75), social recognition and care for left-behind children ( $\bar{X} = 3.21$ , S.D. = 0.76), community-level implementation of educational support policies ( $\bar{X} = 3.12$ , S.D. = 0.79), availability of community education resources ( $\bar{X} = 3.08$ , S.D. = 0.80), and social organization support and volunteer services ( $\bar{X} = 3.15$ , S.D. = 0.77).

The gap between the current conditions and expectations in Family-Social Factors indicates a clear need for improvement. This can be seen from the overall  $PNI_{\text{modified}}$  value ( $PNI_{\text{modified}} = 0.489$ ), with the values for each aspect from high to low being: parental involvement and communication frequency ( $PNI_{\text{modified}} = 0.588$ ), local employment opportunities for parents ( $PNI_{\text{modified}} = 0.563$ ), family economic support and stability ( $PNI_{\text{modified}} = 0.562$ ), cultural values regarding education in the local environment ( $PNI_{\text{modified}} = 0.498$ ), intergenerational education quality and guardian support ( $PNI_{\text{modified}} = 0.497$ ), social recognition and care for left-behind children ( $PNI_{\text{modified}} = 0.459$ ), community-level implementation of educational support policies ( $PNI_{\text{modified}} = 0.451$ ), community support and neighborhood relationships ( $PNI_{\text{modified}} = 0.432$ ), availability of community education resources ( $PNI_{\text{modified}} = 0.419$ ), and social organization support and volunteer services ( $PNI_{\text{modified}} = 0.406$ ).

It can be concluded that all ten areas in Family-Social Factors need improvement, with parental involvement and communication frequency, local employment opportunities for parents, and family economic support and stability showing the highest priority for intervention.

#### 1.2.5 Analysis of Government Policy and Funding Support

This research mainly used Mean, Standard Deviations and  $PNI_{\text{modified}}$  to analyzed the conditions of each variable. The details were as follows table 4.6.

**Table 4.6** Analysis of the Current Conditions and Desired Conditions of the Sustainable Development of Education for Left-behind Children in Shaanxi Province in Terms of Government Policy and Funding Support (n=384)

Government Policy and Funding Support	Current Conditions(D)		Desired Conditions(I)		PNI <sub>modified</sub> (I-D)/D	Rank
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
1. Clarity and accessibility of policies for left behind children	2.12	0.88	3.30	0.75	0.556	2
2. Adequacy of financial support for educational programs	2.08	0.91	3.28	0.78	0.577	1
3. Effectiveness of policy implementation at local levels	2.15	0.89	3.25	0.76	0.512	4
4. Availability of special funds for left behind children	2.10	0.90	3.22	0.79	0.534	3
5. Monitoring and evaluation mechanisms for policy outcomes	2.18	0.87	3.15	0.80	0.445	6
6. Coordination between government departments and schools	2.14	0.92	3.18	0.77	0.486	5
7. Transparency of fund allocation and usage	2.20	0.86	3.12	0.81	0.418	7
<b>Total</b>	<b>2.17</b>	<b>0.88</b>	<b>3.17</b>	<b>0.79</b>	<b>0.476</b>	

According to the data in Table 4.6, the current conditions of Government Policy and Funding Support in promoting the sustainable development of education for left-behind children in Shaanxi Province is at a medium to low level ( $\bar{X}$ = 2.17, S.D. = 0.88). All aspects are at a medium to low level, with the means from high to low listed in descending order of their current means (not ranked by PNI): public awareness and understanding of relevant policies ( $\bar{X}$ = 2.26, S.D. = 0.84), sustainability of funding for long-term programs ( $\bar{X}$ = 2.24, S.D. = 0.88), coverage of support services under policy frameworks ( $\bar{X}$ = 2.22, S.D. = 0.85), transparency of fund allocation and usage ( $\bar{X}$ = 2.20, S.D. = 0.86), monitoring and evaluation mechanisms for policy outcomes ( $\bar{X}$ = 2.18, S.D. = 0.87), effectiveness of policy implementation at local levels ( $\bar{X}$ = 2.15, S.D. = 0.89), coordination between government departments and schools ( $\bar{X}$ = 2.14, S.D. = 0.92), availability of special funds for left-behind children ( $\bar{X}$ = 2.10, S.D. = 0.90), clarity and accessibility of

policies for left-behind children ( $\bar{X}$  = 2.12, S.D. = 0.88), and adequacy of financial support for educational programs ( $\bar{X}$  = 2.08, S.D. = 0.91).

Regarding the desired conditions of Government Policy and Funding Support, it is generally at a moderate level ( $\bar{X}$  = 3.17, S.D. = 0.79). The means from high to low for each aspect are listed in descending order of their desired means (not ranked by PNI): clarity and accessibility of policies for left-behind children ( $\bar{X}$  = 3.30, S.D. = 0.75), adequacy of financial support for educational programs ( $\bar{X}$  = 3.28, S.D. = 0.78), availability of special funds for left-behind children ( $\bar{X}$  = 3.22, S.D. = 0.79), effectiveness of policy implementation at local levels ( $\bar{X}$  = 3.25, S.D. = 0.76), coordination between government departments and schools ( $\bar{X}$  = 3.18, S.D. = 0.77), monitoring and evaluation mechanisms for policy outcomes ( $\bar{X}$  = 3.15, S.D. = 0.80), transparency of fund allocation and usage ( $\bar{X}$  = 3.12, S.D. = 0.81), coverage of support services under policy frameworks ( $\bar{X}$  = 3.10, S.D. = 0.79), public awareness and understanding of relevant policies ( $\bar{X}$  = 3.05, S.D. = 0.80), and sustainability of funding for long-term programs ( $\bar{X}$  = 3.08, S.D. = 0.82).

The gap between the current conditions and expectations in Government Policy and Funding Support indicates a clear need for improvement. This can be seen from the overall PNI<sub>modified</sub> value (PNI<sub>modified</sub> = 0.476), with the values for each aspect from high to low being: adequacy of financial support for educational programs (PNI<sub>modified</sub> = 0.577), clarity and accessibility of policies for left-behind children (PNI<sub>modified</sub> = 0.556), availability of special funds for left-behind children (PNI<sub>modified</sub> = 0.534), effectiveness of policy implementation at local levels (PNI<sub>modified</sub> = 0.512), coordination between government departments and schools (PNI<sub>modified</sub> = 0.486), monitoring and evaluation mechanisms for policy outcomes (PNI<sub>modified</sub> = 0.445), transparency of fund allocation and usage (PNI<sub>modified</sub> = 0.418), coverage of support services under policy frameworks (PNI<sub>modified</sub> = 0.396), sustainability of funding for long-term programs (PNI<sub>modified</sub> = 0.375), and public awareness and understanding of relevant policies (PNI<sub>modified</sub> = 0.351).

It can be concluded that all ten areas in Government Policy and Funding Support need improvement, with adequacy of financial support for educational programs, clarity and accessibility of policies for left-behind children, and availability of special funds for left-behind children showing the highest priority for intervention.

### 1.3 Analysis of the interview form

Based on the research objectives, this study adopted purposive sampling. A total of 10 experts were selected. The target group was screened through purposive sampling. The inclusion criteria were as follows: 1) Teachers and school administrators with over ten years of experience working with left-behind children; 2) Education policy makers from local education bureaus; 3) Experts and scholars engaged in research

related to the education of left-behind children; 4) Social workers with on-site experience in left-behind children assistance projects. All research subjects have both theoretical knowledge and practical experience in the education of left-behind children, providing a foundation for formulating strategies to promote the sustainable development of left-behind children's education in Shaanxi Province.

The research team conducted 10 online face-to-face interviews. Each interview was one-on-one and no one else could hear the conversation to ensure that the participants would not be distracted by other factors. The interview content is analyzed in Table 4.7.

Table 4.7 The Interview content

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
Individual Characteristics Factors													
1	1. Implement resilience-oriented life skills training		√		√	√	√		√	√	√	7	70.0%
	2. Multi-dimensional psychological quality development camp		√	√	√	√	√	√	√		√	8	80.0%
	3. Independent learning ability module design		√	√	√			√	√	√		7	70.0%
	4. Emotional management and psychological counseling courses	√		√	√	√	√	√	√	√	√	9	90.0%
	5. Life adaptation scenario simulation training	√	√	√	√				√	√	√	8	80.0%
	6. Self-decision-making and executive ability training	√	√		√	√	√	√	√	√	√	9	90.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
1	7. Responsibility and task commitment project		√	√	√	√	√	√	√	√	√	9	90.0%
	8. Communication skills and expression ability workshop	√	√	√	√	√	√	√	√	√		9	90.0%
	9. Time management and learning efficiency training			√	√	√	√	√	√	√	√	8	80.0%
	10. Learning interest cultivation program	√	√	√	√	√	√	√	√	√		9	90.0%
	11. Creative thinking training course			√	√	√	√	√	√	√	√	8	80.0%
	12. Self-Awareness and Growth Planning Workshops	√	√	√	√	√	√	√		√	√	9	90.0%
	13. Personal growth record system	√	√	√	√	√	√	√	√		√	9	90.0%
	14. Tutorial system with feedback mechanism	√	√	√	√	√	√	√	√	√		9	90.0%
	15. Psychological resilience mechanism and reflection system			√	√	√	√	√	√	√	√	8	80.0%
	16. Cross-Grade Peer Learning Sessions	√	√	√	√	√	√	√	√	√		8	80.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage	
1	17. Learning ability assessment and feedback system	√	√	√	√	√		√	√	√	√	9	90.0%	
	18. Personalized education plan development	√	√			√	√	√	√	√	√	8	80.0%	
School Education and Support Factors														
2	1. Establishing an Inclusive School Culture and Environment			√	√	√	√	√	√	√	√	8	80.0%	
	2. Implementing School-based Mental Health Support Programs	√	√	√	√	√	√	√		√	√	9	90.0%	
	3. Developing and Integrating Life Skills Curriculum	√	√	√	√	√	√	√	√	√		9	90.0%	
	4. Establishing After-school Learning and Tutoring Centers			√	√	√	√	√	√	√	√	8	80.0%	
	5. Building Digital Home-School Communication Platforms	√	√	√	√	√	√	√	√	√		9	90.0%	
	6. Conducting Specialized Teacher Training	√	√		√	√	√	√	√	√	√	√	9	90.0%
	7. Implementing a School-based Growth Mentorship System	√	√	√		√	√	√	√	√	√	√	9	90.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
2	8. Establishing a School Resource Center		√	√	√	√	√	√	√	√		8	80.0%
	9. Organizing Peer Support Groups			√	√	√	√	√	√	√	√	9	90.0%
	10. Establishing a Comprehensive Student Development Monitoring and Early Warning Mechanism	√	√	√	√	√	√	√	√			8	80.0%
	11. Utilizing Digital Technology to Bridge the Resource Gap	√			√	√	√	√	√	√		7	70.0%
	12. Designing and Implementing Resilience-building Curriculum	√	√	√		√	√	√	√	√	√	9	90.0%
	13. Organizing Campus Family-bonding Activities	√	√	√	√	√	√	√	√	√		9	90.0%
	14. Establishing "Home for Left-behind Children" Activity Centers			√	√	√	√	√	√	√	√	8	80.0%
	15. Strengthening Collaboration with Communities and Social Organizations		√	√	√	√	√	√	√	√	√	9	90.0%
	16. Optimizing School Management and Evaluation Systems	√	√	√	√	√	√	√	√			8	80.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
2	17. Conducting School-based Research and Action Reflection	√	√	√			√	√	√	√	√	7	70.0%
	18. Establishing an Inter-school Educational Resource Sharing Alliance		√	√	√	√	√	√	√	√	√	9	90.0%
	19. Promoting Teacher and Staff Well-being and Burnout Prevention Programs	√	√	√			√	√	√	√	√	7	70.0%
	20. Developing and Implementing a Digital Literacy and Safe Internet Use Curriculum		√		√	√	√	√	√		√	7	70.0%
Family and Social External Factors													
3	1. Establish Family-School-Community Collaboration Platforms	√	√	√	√	√	√	√	√	√		9	90.0%
	2. Create Parental Involvement Programs in Community Activities	√	√	√	√		√	√	√	√	√	9	90.0%
	3. Open Access Program for Community Social Resources (e.g., libraries, activity centers)			√	√	√	√	√	√	√	√	8	80.0%
	4. Establish a Community Volunteer Support Fund for Left-behind Children												

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
3	5. Provide Family Education Guidance and Parenting Skills Training			✓	✓	✓	✓	✓	✓	✓	✓	8	80.0%
	6. Introduce Professional Social Workers and Counselors to Communities	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	90.0%
	7. Promote a Community Culture of Care and Inclusion	✓			✓	✓	✓	✓	✓	✓	✓	8	80.0%
	8. Build Collaboration Platforms among Schools, Families, and Community Organizations		✓	✓	✓	✓	✓	✓	✓	✓	✓	9	90.0%
	9. Improve the Mechanism for Reporting and Supporting At-risk Children	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	90.0%
	10. Organize Community Lecture Halls Featuring Successful Role Models	✓	✓	✓				✓	✓	✓	✓	7	70.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
3	11. Hold Regular Forums on Best Practices in Supporting Left-behind Children	✓			✓	✓	✓	✓	✓	✓	✓	8	80.0%
	12. Launch Public Awareness Campaigns to Reduce Social Stigma		✓	✓	✓	✓	✓	✓	✓	✓	✓	9	90.0%
	13. Expand Inter-Community Exchange Projects for Children	✓		✓	✓	✓	✓	✓	✓	✓		8	80.0%
	14. Support Participation in Cultural and Sports Activities		✓	✓	✓	✓	✓	✓	✓		✓	8	80.0%
	15. Open Public Recreational and Cultural Resource Platforms	✓	✓	✓	✓		✓	✓	✓	✓	✓	9	90.0%
	16. Build Local Community Tutoring and Mentoring Bases	✓	✓	✓	✓	✓		✓	✓	✓	✓	9	90.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
Government Policy and Funding Factors													
4	1. Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province	√			√	√	√	√	√	√	√	8	80.0%
	2. Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children		√	√	√	√	√	√	√	√	√	9	90.0%
	3. Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children	√		√	√	√	√	√	√	√		8	80.0%
	4. Launch a Government-Funded "School Social Worker Station" Program		√	√	√	√	√	√	√		√	8	80.0%
	5. Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children	√	√	√	√			√	√	√	√	9	90.0%
	6. Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations	√	√	√	√	√	√		√	√	√	9	90.0%

Table 4.7 (Continued)

Questions	Suggestions	Interview1	Interview2	Interview3	Interview4	Interview5	Interview6	Interview7	Interview8	Interview9	Interview10	Frequency	Percentage
		4	7. Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children	✓	✓		✓	✓	✓	✓	✓	✓	
	8. Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness		✓	✓	✓	✓	✓	✓	✓	✓	✓	9	90.0%

According to Table 4.7, which summarizes the strategies and suggestions gathered from interviews with 10 participants, a comprehensive framework for enhancing the sustainable development of education for left-behind children in Shaanxi Province is presented. The participants provided feedback across multiple key domains, including individual characteristics, school education support, family-social factors, and government policy and funding support. The table meticulously records the level of consensus among the experts, with approval rates for the proposed strategies ranging from 70% to an overwhelming 90%, indicating a strong collective endorsement of the identified measures. This high degree of agreement underscores the relevance and perceived urgency of these strategies among professionals directly involved with the issue.

### 1. Individual Characteristics

The first set of suggestions focuses on enhancing the Individual Characteristics of left-behind children, aiming to cultivate their intrinsic strengths and equip them with the necessary skills for lifelong success. The primary recommendations center on two interconnected pillars: psychological resilience and socio-emotional competence, and cognitive and metacognitive skill development. Key proposals include implementing resilience-oriented life skills training, conducting multi-dimensional psychological quality development camps, and offering courses in emotional management and psychological counseling to fortify their mental well-being. Complementing these are measures to foster autonomy and learning efficacy, such as designing modules for independent learning ability, workshops for communication skills, and training in self-decision-making and executive function. These suggestions garnered strong approval from the interviewees, with support rates ranging from 70% to 90%. Such a high level of consensus indicates that enhancing the children's internal capacities—their psychological health, self-management, and learning agency—is considered paramount for their healthy growth and long-term well-being.

### 2. School Education Support

The second set of suggestions focuses on strengthening School Education Support, recognizing schools as the central hub for providing a holistic and nurturing environment. The core recommendations advocate for a dual approach of creating a supportive school culture and delivering specialized support services. This includes establishing an inclusive school culture, implementing school-based mental health support programs, and organizing campus family-bonding activities to build a sense of belonging. Simultaneously, the proposals emphasize targeted interventions like developing life skills curricula, establishing after-school tutoring centers, and launching a "School Social Worker Station" program to address specific vulnerabilities. Furthermore, structural improvements such as optimizing management systems,

fostering inter-school resource alliances, and promoting teacher well-being were highlighted. These suggestions received robust support, with approval rates between 70% and 90%, underscoring the expert consensus that schools must evolve beyond traditional academics to become comprehensive support systems for vulnerable students.

### 3. Family-Social Factors

The third set of suggestions focuses on improving Family-Social Factors by weaving a stronger, more responsive safety net around the children through their families and communities. The main proposals concentrate on building collaborative networks and mobilizing community assets. This involves establishing formal platforms for family-school-community collaboration and creating parental involvement programs to bridge the home-school gap. A significant emphasis was placed on empowering communities by introducing professional social workers, opening access to social resources (like libraries and activity centers), and building local tutoring bases. To tackle societal challenges, the experts strongly advocated for launching public awareness campaigns to reduce stigma and organizing lectures featuring positive role models. With support rates ranging from 70% to 90%, these recommendations demonstrate a clear consensus that sustainable improvement requires moving beyond the school gates to engage families and activate community resources, creating an ecosystem of care and inclusion.

### 4. Government Policy and Funding Support

The fourth set of suggestions focuses on Optimizing Government Policy and Funding Support, positioning government action as the fundamental enabler for all other strategies. The key recommendations call for a systemic approach encompassing robust governance, equitable funding, and data-driven accountability. This includes enacting specialized local regulations, establishing a multi-departmental coordinating committee to break down silos, and optimizing the provincial financial allocation formula with a weighted model for left-behind children. To ensure effectiveness, experts urged the development of a unified information management platform, incorporating key performance indicators into local government evaluations, and instituting annual policy reviews via third-party assessments. These top-tier strategies, all receiving high approval, reflect a unanimous belief among participants that only through decisive, well-funded, and systematically implemented government policy can the complex challenge of supporting left-behind children be sustainably addressed.

Overall, Table 4.7 reveals a high level of consensus among the participants regarding the strategies for the sustainable development of education for left-behind children in Shaanxi Province. These recommendations received strong support,

indicating a shared agreement among stakeholders on key areas such as enhancing individual capacities, strengthening school-based support systems, mobilizing family and community resources, and establishing robust government policy and funding frameworks. The widespread endorsement underscores a collective recognition that a truly effective approach must be integrated and multidimensional, addressing the complex interplay of personal, institutional, social, and government factors to create a sustainable and supportive ecosystem for these children.

## Results of Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.

2.1 Based on the analysis results of the current conditions and desired development of sustainable education for left-behind children in Shaanxi Province, strategies should be formulated.

2.1.1 Results of SWOT and TOWS Matrix Analysis of Individual Characteristics of Children.

To identify actionable entry points for improving the educational development of left-behind children, it is essential to examine their individual characteristics through a SWOT lens, revealing internal strengths and weaknesses as well as external opportunities and threats that shape their learning and growth. The results are presented in Table 4.8 below.

**Table 4.8** SWOT Analysis: Individual Characteristics of Children

<b>S</b>	<b>W</b>
<p><b>S1</b> Basic self-care ability and growing independence</p> <p><b>S2</b> Strong sense of responsibility and task commitment</p> <p><b>S3</b> Well-developed interpersonal communication skills</p>	<p><b>W1</b> Insufficient learning motivation and low engagement in education</p> <p><b>W2</b> Difficulties in problem-solving and weak autonomous response capacity</p> <p><b>W3</b> Emotional management difficulties and psychological vulnerability</p>
<b>O</b>	<b>T</b>
<p><b>O1</b> National policy support for left-behind children's education</p> <p><b>O2</b> Digital education resources and online learning platforms</p> <p><b>O3</b> School community collaborative support mechanisms enhancing psychosocial development</p>	<p><b>T1</b> Regional economic development disparities causing uneven educational resources</p> <p><b>T2</b> Social discrimination and unequal opportunities affecting self esteem</p> <p><b>T3</b> Insufficient family education guidance resources reducing developmental potential</p>

According to Table 4.8, the SWOT analysis of Individual Characteristics reveals both strengths and challenges faced by left-behind children in Shaanxi Province. Strengths include basic self-care ability and growing independence (S1), reflecting the highest current level of independent living skills; a strong sense of responsibility and task commitment (S2), indicated by relatively positive expectations for responsible behavior; and well-developed interpersonal communication skills (S3), supported by the comparatively higher current mean in peer interaction. However, notable weaknesses are evident: insufficient learning motivation and low engagement in education (W1) corresponds to the largest PNI gap in this dimension; difficulties in problem-solving and weak autonomous response capacity (W2) highlight the considerable shortfall in students' ability to tackle challenges independently; and emotional management difficulties and psychological vulnerability (W3) reflect the low current status of psychological well-being and emotion regulation.

External opportunities exist that could enhance these characteristics: national policy support for left-behind children's education (O1) provides a favorable framework for targeted interventions; digital education resources and online learning platforms (O2) offer accessible tools to supplement schooling; and emerging school-community collaborative support mechanisms (O3) can foster psychosocial development beyond the family. At the same time, threats may hinder progress: regional economic development disparities (T1) lead to unequal access to quality education and support services; social discrimination and unequal opportunities (T2) may negatively affect children's self-esteem and willingness to engage socially; and insufficient family education guidance resources (T3) constrain the potential for holistic growth. These factors together suggest that while certain individual traits are promising, systematic efforts are needed to address weaknesses and mitigate threats while leveraging available opportunities.

Based on the TOWS matrix, the following is an analysis of the suggested strategies for individual characteristics:

#### 1) SO Strategies (Strengths–Opportunities)

S1 and O2: Utilize the basic self-care ability and growing independence (S1) of left-behind children to fully exploit digital education resources and online learning platforms (O2). Schools can curate interactive e-learning modules that encourage self-management and independent study habits, reinforcing their ability to take charge of their own learning process.

S2 and O2: Leverage a strong sense of responsibility and task commitment (S2) by integrating adaptive online learning pathways (O2) that align with students'

commitment to completing tasks, adjusting content difficulty based on real-time performance to sustain engagement and achievement.

S3 and O3: Combine well-developed interpersonal communication skills (S3) with school-community collaborative support mechanisms (O3) to organize joint life-skill workshops (e.g., teamwork, conflict resolution) run by schools and community centers, further enhancing students' ability to interact confidently in diverse settings.

## 2) ST Strategies (Strengths–Threats)

S1 and T1: Use existing self-care ability and independence (S1) to counteract the effects of regional economic development disparities (T1). Schools in less developed areas can implement peer mentoring schemes led by more capable students, ensuring resource gaps do not impede personal growth.

S2 and T2: Counteract social discrimination and unequal opportunities (T2) by channeling strong sense of responsibility and task commitment (S2) into visible achievement-recognition programs (e.g., academic awards, leadership roles), building confidence and challenging negative stereotypes within the community.

S3 and T1/T2: Apply well-developed interpersonal communication skills (S3) to create cross-community peer networks and mentorship links, helping students overcome isolation caused by economic disparity (T1) and social bias (T2), and expanding their support base.

## 3) WT Strategies (Weaknesses–Threats)

W1 and T1: Address insufficient learning motivation and low engagement in education (W1), exacerbated by regional economic disparities (T1), through mobile mentoring initiatives where teachers and community volunteers provide regular remote coaching to families in underdeveloped areas, partially substituting for absent parental encouragement.

W2 and T2: Mitigate difficulties in problem-solving and weak autonomous response capacity (W2) in the face of social discrimination and unequal opportunities (T2) by establishing school-based safe-space groups facilitated by trained counselors, allowing children to practice problem-solving strategies and receive affirmation in a supportive peer setting.

W3 and T1/T2: Support emotional management difficulties and psychological vulnerability (W3), worsened by economic gaps (T1) and social stigma (T2), via community-school counseling outreach programs that build emotional resilience and coping skills.

## 4) WO Strategies (Weaknesses–Opportunities)

W2 and O2: To improve difficulties in problem-solving and weak autonomous response capacity (W2), employ digital education resources and online learning

platforms (O2) offering scenario-based problem solving exercises, interactive case studies, and virtual coaching to strengthen independent thinking.

W1 and O2: Alleviate insufficient learning motivation and low engagement in education (W1) by using digital platforms (O2) to deliver engaging, personalized learning content and gamified modules that spark interest and increase voluntary participation.

W3 and O3: Use school-community collaborative support mechanisms (O3) to provide group psychological education and peer support programs targeting emotional management difficulties and psychological vulnerability (W3), creating safe environments for sharing experiences and developing regulation skills.

By scientifically implementing these strategies, left-behind children in Shaanxi Province can better utilize their individual strengths (independence, responsibility, communication skills) while addressing key weaknesses (motivation, problem-solving, emotional regulation), actively responding to external challenges. This will help establish a more stable and sustainable educational development system for left-behind children during their growth process.

#### 2.1.2 Results of SWOT and TOWS Matrix of School Education Support

Building on the insights from individual characteristics, the school education support environment must also be examined, as it constitutes a critical external factor influencing learning outcomes and sustainable development. The details were as follows table 4.9.

**Table 4.9** SWOT Analysis: School Education Support

<b>S</b>	<b>W</b>
<p><b>S1</b> Reasonable school curriculum design and resource allocation providing basic educational guarantees</p> <p><b>S2</b> Active participation in school-family-community activities fostering integrated support</p> <p><b>S3</b> Well-established school evaluation and feedback mechanisms supporting continuous improvement</p>	<p><b>W1</b> Insufficient extracurricular support and tutoring services for diverse learning needs</p> <p><b>W2</b> Gaps in targeted support programs specifically addressing left-behind children's challenges</p> <p><b>W3</b> Uneven teacher support and instructional quality affecting student learning outcomes</p>
<b>O</b>	<b>T</b>
<p><b>O1</b> Expansion of digital teaching resources and smart campus infrastructure</p> <p><b>O2</b> Growing emphasis on inclusive education policies</p> <p><b>O3</b> Increased collaboration between schools and community organizations</p>	<p><b>T1</b> Uneven distribution of educational resources between urban and rural schools</p> <p><b>T2</b> Teacher shortages and high turnover in remote areas</p> <p><b>T3</b> Weak coordination mechanisms hindering effective school-family-community integration</p>

According to Table 4.9, the SWOT analysis of School Education Support highlights several internal strengths and challenges impacting left-behind children in Shaanxi Province. Strengths include reasonable school curriculum design and resource allocation providing basic educational guarantees (S1), which lay a foundation for consistent learning opportunities; active participation in school–family–community activities fostering integrated support (S2), strengthening multi-stakeholder collaboration around students’ development; and well-established school evaluation and feedback mechanisms supporting continuous improvement (S3), which enable regular monitoring and refinement of educational practices. However, notable weaknesses persist: insufficient extracurricular support and tutoring services for diverse learning needs (W1) limit the ability to cater to varied student requirements; gaps in targeted support programs specifically addressing left-behind children’s challenges (W2) reduce the effectiveness of tailored interventions; and uneven teacher support and instructional quality (W3) affect students’ learning outcomes and the consistency of educational support.

External opportunities offer avenues for improvement: the expansion of digital teaching resources and smart campus infrastructure (O1) enables more flexible and personalized learning options; growing emphasis on inclusive education policies (O2) encourages schools to strengthen targeted interventions for disadvantaged groups; and increased collaboration between schools and community organizations (O3) can broaden the scope of psychosocial and academic support. Concurrently, threats may impede progress: uneven distribution of educational resources between urban and rural schools (T1) restricts equal access to quality services; teacher shortages and high turnover in remote areas (T2) undermine continuity of care and instruction; and weak coordination mechanisms hindering effective school–family–community integration (T3) weaken holistic support systems. Addressing these factors strategically will be essential to enhance the educational experience and sustainable development of left-behind children.

Based on the TOWS matrix, the following is an analysis of the suggested strategies for School Education Support:

1) SO Strategies (Strengths–Opportunities)

S1 and O1: Combine reasonable school curriculum design and resource allocation providing basic educational guarantees (S1) with the expansion of digital teaching resources and smart campus infrastructure (O1) to develop flexible, technology-enhanced learning modules accessible across different schools, ensuring that even resource-limited classrooms can deliver quality instruction.

S2 and O2: Use active participation in school–family–community activities fostering integrated support (S2) alongside growing emphasis on inclusive education policies (O2) to embed left-behind children in coordinated support programs, ensuring policy benefits effectively reach target groups through community-engaged implementation.

S3 and O3: Leverage well-established school evaluation and feedback mechanisms supporting continuous improvement (S3) together with increased collaboration between schools and community organizations (O3) to create joint review and planning processes that continuously refine support services and align them with community needs.

### 2) ST Strategies (Strengths–Threats)

S1 and T1: Deploy the stable curriculum and resource foundation (S1) in resource-deficient rural schools (T1) by prioritizing digital access and shared resource hubs, mitigating disparities caused by uneven distribution of educational materials and facilities.

S2 and T2: Strengthen active school–family–community participation (S2) to build local retention incentives and peer-support structures for teachers (T2), reducing turnover and maintaining instructional continuity in remote areas.

S3 and T1/T3: Apply robust evaluation and feedback mechanisms (S3) to monitor and address weaknesses arising from uneven resource distribution (T1) and weak coordination mechanisms (T3), ensuring timely adjustments and accountability across schools.

### 3) WT Strategies (Weaknesses–Threats)

W1 and T1: Address insufficient extracurricular support and tutoring services for diverse learning needs (W1) in regions suffering from uneven distribution of educational resources (T1) by developing modular, distance-learning versions of these services, supported by regional teacher teams and digital platforms.

W2 and T2: Counter gaps in targeted support programs specifically addressing left-behind children’s challenges (W2) alongside teacher shortages and high turnover in remote areas (T2) by training existing teachers in targeted intervention methods and using tele-support systems to extend program reach.

W3 and T1/T2: Mitigate uneven teacher support and instructional quality (W3) worsened by resource gaps (T1) and staffing shortages (T2) through structured peer mentoring among teachers and deployment of standardized instructional toolkits.

#### 4) WO Strategies (Weaknesses–Opportunities)

W1 and O1: Improve insufficient extracurricular support and tutoring services (W1) by integrating digital teaching resources and smart campus infrastructure (O1) to offer online enrichment and tutoring programs accessible beyond school hours.

W2 and O2: Close gaps in targeted support programs for left-behind children (W2) by aligning program design with inclusive education policy requirements (O2), ensuring they receive prioritized attention and funding.

W3 and O3: Overcome uneven teacher support and instructional quality (W3) by using increased collaboration between schools and community organizations (O3) to share best practices, conduct joint training, and establish consistent support standards across schools.

By systematically implementing the SO, WO, ST, and WT strategies, schools in Shaanxi can integrate internal strengths—such as sound curriculum foundations, active community participation, and effective evaluation systems—with external opportunities like digital infrastructure and inclusive policies. At the same time, they can address deficiencies in extracurricular support, targeted programs, and teacher support while responding to challenges such as resource inequity and staffing shortages. This approach enhances education quality and sustainability for left-behind children and lays a solid foundation for a long-term support mechanism. It also ensures that localized advantages are aligned with provincial policies and technological innovations to maximize impact, mitigates resource gaps and staff shortages—particularly in remote and underserved areas—through flexible delivery modes and capacity-building initiatives, and fosters cross-sector collaboration among schools, communities, and government agencies. Ultimately, this comprehensive pathway positions Shaanxi’s education system to achieve equitable, resilient, and sustainable development for left-behind children, serving as a scalable model for similar regions.

#### 2.1.3 Results of SWOT and TOWS Matrix of Family Social Factors

Extending analysis to the family-social dimension reveals how relational and community factors shape educational development beyond school, identifies actionable priorities for strengthening family-school-community ties and addressing social-emotional support gaps, as detailed in Table 4.10.

**Table 4.10** SWOT Analysis: Family-Social Factors

<b>S</b>	<b>W</b>
<p><b>S1</b> Effective community-level implementation of educational support policies enhancing coordinated action</p> <p><b>S2</b> Growing social organization support and volunteer services broadening assistance networks</p> <p><b>S3</b> Improved availability of community education resources facilitating learning opportunities</p>	<p><b>W1</b> Insufficient parental involvement and low communication frequency affecting children’s guidance</p> <p><b>W2</b> Limited local employment opportunities for parents restricting family stability and support</p> <p><b>W3</b> Unstable family economic support and lack of financial security hindering consistent education investment</p>
<b>O</b>	<b>T</b>
<p><b>O1</b> National and provincial policies promoting equal educational opportunities for left-behind children</p> <p><b>O2</b> Increased public awareness and mobilization of nongovernmental organizations to support vulnerable groups</p> <p><b>O3</b> Technological advances expanding access to remote and flexible learning resources</p>	<p><b>T1</b> Economic disparity across regions limiting family support capacity</p> <p><b>T2</b> Social stigma and insufficient recognition of left behind children</p> <p><b>T3</b> Lack of systematic coordination mechanisms among schools, families, and communities</p>

According to Table 4.10, the SWOT analysis of Family-Social Factors reveals important internal strengths and challenges shaping the educational context of left-behind children in Shaanxi Province. Strengths include effective community-level implementation of educational support policies enhancing coordinated action (S1), which provides a structured framework for multi-stakeholder collaboration; growing social organization support and volunteer services broadening assistance networks (S2), extending help beyond the immediate family to reach more children; and improved availability of community education resources facilitating learning opportunities (S3), which expands access to supplementary learning options in various localities. Key weaknesses are evident in insufficient parental involvement and low communication frequency affecting children’s guidance (W1), limiting the direct influence of families on education; limited local employment opportunities for parents restricting family stability and support (W2), which reduces household capacity to invest consistently in schooling; and unstable family economic support and lack of financial security hindering consistent education investment (W3), making it difficult for families to maintain steady educational expenditure.

External opportunities include national and provincial policies promoting equal educational opportunities for left-behind children (O1), creating policy

momentum for targeted interventions; increased public awareness and mobilization of nongovernmental organizations to support vulnerable groups (O2), bringing additional human and material resources into the support network; and technological advances expanding access to remote and flexible learning resources (O3), which help overcome geographical and temporal barriers to education. Meanwhile, threats such as economic disparity across regions limiting family support capacity (T1), social stigma and insufficient recognition of left-behind children (T2), and lack of systematic coordination mechanisms among schools, families, and communities (T3) may hinder the realization of these supports and weaken the overall family-social environment. Addressing these factors strategically is vital to strengthening the family-social environment for sustainable educational development.

Based on the TOWS matrix, the following is an analysis of the suggested strategies for Family-Social Factors:

#### 1) SO Strategies (Strengths–Opportunities)

S1 and O3: Utilize effective community-level implementation of educational support policies enhancing coordinated action (S1) together with technological advances expanding access to remote and flexible learning resources (O3) to develop coordinated family-engagement initiatives delivered via digital platforms, enabling regular communication between schools, families, and support workers regardless of location.

S2 and O1: Leverage growing social organization support and volunteer services broadening assistance networks (S2) alongside national and provincial policies promoting equal educational opportunities for left-behind children (O1) to create volunteer-led tutoring and mentoring programs that extend policy benefits directly into communities.

S3 and O2: Build on improved availability of community education resources facilitating learning opportunities (S3) combined with increased public awareness and mobilization of nongovernmental organizations to support vulnerable groups (O2) to establish accessible learning hubs and resource centers managed jointly by NGOs and community organizations, reaching children with limited private resources.

#### 2) ST Strategies (Strengths–Threats)

S1 and T1: Counter economic disparity across regions limiting family support capacity (T1) by strengthening the existing community-level policy implementation mechanisms (S1), using them to coordinate cross-regional support packages and ensure vulnerable families receive necessary assistance.

S2 and T2: Use growing social organization support and volunteer services (S2) to challenge social stigma and insufficient recognition of left-behind children (T2)

by organizing inclusive community events that highlight children's achievements and promote positive narratives.

S3 and T3: Apply improved availability of community education resources (S3) to overcome lack of systematic coordination mechanisms among schools, families, and communities (T3) by creating shared resource calendars and joint activity planning across sectors.

### 3) WT Strategies (Weaknesses–Threats)

W1 and T1: Address insufficient parental involvement and low communication frequency affecting children's guidance (W1) in the context of economic disparity across regions (T1) by linking families to mobile mentoring and remote communication tools supported by community programs, partially compensating for geographic and economic barriers.

W2 and T2: Mitigate limited local employment opportunities for parents restricting family stability and support (W2) alongside social stigma and insufficient recognition of left-behind children (T2) through vocational training initiatives and public awareness campaigns aimed at improving employment prospects and shifting community attitudes.

W3 and T1/T3: Alleviate unstable family economic support and lack of financial security hindering consistent education investment (W3), worsened by regional economic gaps (T1) and poor coordination mechanisms (T3), by establishing community-based scholarship funds and financial aid schemes coordinated by schools and NGOs.

### 4) WO Strategies (Weaknesses–Opportunities)

W1 and O3: Improve insufficient parental involvement and low communication frequency (W1) by using technological advances expanding access to remote and flexible learning resources (O3) to set up virtual parent-teacher meetings and digital guidance modules accessible to dispersed families.

W2 and O1: Address limited local employment opportunities for parents (W2) by aligning workforce development initiatives with national and provincial policies promoting equal educational opportunities (O1), ensuring employment programs also enhance family capacity to support education.

W3 and O2: Strengthen unstable family economic support (W3) through partnerships with nongovernmental organizations (O2) that provide emergency financial aid, micro-grants, and livelihood training, helping stabilize household investments in children's education.

The systematic and in-depth SWOT and TOWS analysis of Family-Social Factors, conducted with careful consideration of multiple contextual layers and

relational dynamics, effectively identifies a range of pivotal and far-reaching relational and contextual elements which, when thoughtfully strengthened or appropriately mitigated through coordinated efforts, are regarded as essential and indispensable for fostering a more consistently supportive, inclusive, and nurturing environment that can significantly enhance the educational experiences and overall well-being of left-behind children in diverse settings.

#### 2.1.4 Results of SWOT and TOWS Matrix of Government Policy and Funding Support

Finally, undertaking a thorough and methodical assessment of Government Policy and Funding Support is widely regarded as crucial and indispensable, since the established policy frameworks together with the sustained and adequately allocated financial inputs essentially set the broad and overarching enabling conditions within which schools, families, and communities carry out their respective functions and collaborative endeavors on a daily basis across varied contexts. The corresponding and carefully compiled findings from this considered assessment are comprehensively presented and elaborated in Table 4.11.

**Table 4.11** SWOT Analysis: Government Policy and Funding Support

<b>S</b>	<b>W</b>
<p><b>S1</b> Relatively high public awareness and understanding of relevant policies enhancing compliance</p> <p><b>S2</b> Reasonable sustainability of funding for long-term programs ensuring continuity</p> <p><b>S3</b> Broad coverage of support services under existing policy frameworks</p>	<p><b>W1</b> Insufficient adequacy of financial support for educational programs limiting resource availability</p> <p><b>W2</b> Limited clarity and accessibility of policies for left-behind children hindering effective utilization</p> <p><b>W3</b> Inadequate availability of special funds for left-behind children constraining targeted interventions</p>
<b>O</b>	<b>T</b>
<p><b>O1</b> National emphasis on inclusive education and poverty alleviation</p> <p><b>O2</b> Technological advancement facilitating transparent fund allocation</p> <p><b>O3</b> Increasing public private partnerships expanding support channels</p>	<p><b>T1</b> Fluctuations in fiscal budgets affecting sustainability of funding</p> <p><b>T2</b> Bureaucratic inefficiencies slowing policy implementation</p> <p><b>T3</b> Socioeconomic disparities reducing equitable policy reach</p>

According to Table 4.11, the SWOT analysis of Government Policy and Funding Support highlights the systemic drivers and constraints affecting sustainable

education for left-behind children in Shaanxi Province. Strengths include relatively high public awareness and understanding of relevant policies enhancing compliance (S1), which creates a receptive environment for policy implementation; reasonable sustainability of funding for long-term programs ensuring continuity (S2), allowing sustained support for educational initiatives over time; and broad coverage of support services under existing policy frameworks (S3), which extends protection and assistance to a wide range of beneficiaries. However, notable weaknesses remain: insufficient adequacy of financial support for educational programs limiting resource availability (W1) hampers the scale and quality of services; limited clarity and accessibility of policies for left-behind children hindering effective utilization (W2) reduces stakeholders' ability to apply policies correctly; and inadequate availability of special funds for left-behind children constraining targeted interventions (W3) limits tailored support for this vulnerable group.

External opportunities comprise national emphasis on inclusive education and poverty alleviation (O1), which drives priority funding and program development; technological advancement facilitating transparent fund allocation (O2), improving oversight and accountability in resource distribution; and increasing public-private partnerships expanding support channels (O3), bringing additional expertise and funding into the education system. Concurrent threats include fluctuations in fiscal budgets affecting sustainability of funding (T1), posing risks to long-term program continuity; bureaucratic inefficiencies slowing policy implementation (T2), delaying benefits for children; and socioeconomic disparities reducing equitable policy reach (T3), preventing uniform access to quality education support. Strategically addressing these factors is essential to enhance policy effectiveness and ensure stable, equitable educational development for left-behind children.

Based on the TOWS matrix, the following is an analysis of the suggested strategies for Government Policy and Funding Support:

1) SO Strategies (Strengths–Opportunities)

S1 and O1: Leverage relatively high public awareness and understanding of relevant policies enhancing compliance (S1) together with national emphasis on inclusive education and poverty alleviation (O1) to design targeted outreach and training programs that translate policy priorities into community-level action for left-behind children.

S2 and O2: Use reasonable sustainability of funding for long-term programs ensuring continuity (S2) alongside technological advancement facilitating transparent fund allocation (O2) to establish stable, digitally tracked funding streams that safeguard program longevity and minimize misallocation.

S3 and O3: Apply broad coverage of support services under existing policy frameworks (S3) in conjunction with increasing public-private partnerships expanding support channels (O3) to integrate NGO and private sector expertise into publicly funded service delivery, enhancing reach and efficiency.

#### 2) ST Strategies (Strengths–Threats)

S1 and T1: Guard against fluctuations in fiscal budgets affecting sustainability of funding (T1) by embedding high public awareness and policy understanding (S1) into advocacy campaigns that promote multi-year budget commitments and shield core education programs from cuts.

S2 and T2: Counter bureaucratic inefficiencies slowing policy implementation (T2) by reinforcing the sustainability of long-term funding programs (S2), using predictable financing to incentivize streamlined procedures and inter-agency cooperation.

S3 and T3: Address socioeconomic disparities reducing equitable policy reach (T3) by capitalizing on broad policy framework coverage (S3) to prioritize underserved regions in resource distribution and monitoring, reducing gaps in service access.

#### 3) WT Strategies (Weaknesses–Threats)

W1 and T1: Address insufficient adequacy of financial support for educational programs limiting resource availability (W1) amid fiscal budget fluctuations (T1) by creating contingency reserve funds and performance-based matching grants that stabilize local program financing.

W2 and T2: Mitigate limited clarity and accessibility of policies for left-behind children hindering effective utilization (W2) alongside bureaucratic inefficiencies (T2) by simplifying policy language, consolidating dissemination channels, and assigning dedicated liaisons to assist local implementers.

W3 and T3: Overcome inadequate availability of special funds for left-behind children constraining targeted interventions (W3) in areas affected by socioeconomic disparities (T3) through earmarked allocations linked to equity targets and mobile delivery models for remote communities.

#### 4) WO Strategies (Weaknesses–Opportunities)

W1 and O1: Increase the adequacy of financial support for educational programs (W1) by aligning proposals with national emphasis on inclusive education and poverty alleviation (O1), securing prioritized budget lines and Special funds for disadvantaged groups.

W2 and O2: Improve clarity and accessibility of policies for left-behind children (W2) using technological advancement facilitating transparent fund allocation

(O2), such as interactive portals and automated guidance systems, to help stakeholders locate and understand applicable provisions.

W3 and O3: Enhance availability of special funds for left-behind children (W3) by leveraging increasing public-private partnerships expanding support channels (O3), attracting corporate and nonprofit co-funding for targeted educational interventions.

Analyzing policy and funding through SWOT and TOWS highlights strategic levers for improving resource allocation and institutional responsiveness, ensuring sustainable educational development for left-behind children.

2.1.5 SWOT and TOWS Matrix of total: Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

Integrating the SWOT findings across all four dimensions provides a comprehensive view of the systemic strengths, weaknesses, opportunities, and threats influencing the sustainable education of left-behind children, and serves as the basis for coordinated cross-dimensional strategies. The findings from this assessment are detailed in Table 4.12.

**Table 4.12** Results of SWOT and TOWS Matrix Analysis of SWOT and TOWS Matrix of total: Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

S	W
<b>S1</b> Individual Characteristics – Basic self-care ability and growing independence	<b>W1</b> School Education Support – Insufficient extracurricular support and tutoring services
<b>S2</b> School Education Support – Reasonable school curriculum design and resource allocation	<b>W2</b> Family-Social Factors – Insufficient parental involvement and low communication frequency
<b>S3</b> Family-Social Factors – Effective community-level implementation of educational support policies	<b>W3</b> Government Policy and Funding Support – Insufficient adequacy of financial support for educational programs
<b>S4</b> Government Policy and Funding Support – Relatively high public awareness and understanding of relevant policies	<b>W4</b> Government Policy and Funding Support – Limited clarity and accessibility of policies for left-behind children

Table 4.12 (continued)

O	T
<b>O1</b> School Education Support – Expansion of digital teaching resources and smart campus infrastructure	<b>T1</b> Family-Social Factors – Economic disparity across regions limiting family support capacity
<b>O2</b> Family-Social Factors – Increased public awareness and mobilization of nongovernmental organizations	<b>T2</b> School Education Support – Teacher shortages and high turnover in remote areas
<b>O3</b> Government Policy and Funding Support – National emphasis on inclusive education and poverty alleviation	<b>T3</b> Government Policy and Funding Support – Bureaucratic inefficiencies slowing policy implementation
<b>O4</b> Government Policy and Funding Support – Increasing public-private partnerships expanding support channels	<b>T4</b> Family-Social Factors – Social stigma and insufficient recognition of left-behind children

According to Table 4.12, the SWOT analysis confirms that the four dimensions collectively capture the main strengths, weaknesses, opportunities, and threats for the sustainable development of education for left-behind children. Strengths lie in Individual Characteristics – basic self-care ability and growing independence, School Education Support – reasonable school curriculum design and resource allocation, Family-Social Factors – effective community-level implementation of educational support policies, and Government Policy and Funding Support – relatively high public awareness and understanding of relevant policies. Weaknesses are found in School Education Support – insufficient extracurricular support and tutoring services, Family-Social Factors – insufficient parental involvement and low communication frequency, Government Policy and Funding Support – insufficient adequacy of financial support for educational programs, and Government Policy and Funding Support – limited clarity and accessibility of policies for left-behind children. Opportunities include School Education Support – expansion of digital teaching resources and smart campus infrastructure, Family-Social Factors – increased public awareness and mobilization of nongovernmental organizations, Government Policy and Funding Support – national emphasis on inclusive education and poverty alleviation, and Government Policy and Funding Support – increasing public-private partnerships expanding support channels. Threats arise from Family-Social Factors – economic disparity across regions limiting family support capacity, School Education Support – teacher shortages and high turnover in remote areas, Government Policy and Funding Support – bureaucratic inefficiencies slowing policy implementation, and Family-Social

Factors – social stigma and insufficient recognition of left-behind children. These dimensions are thus essential for a comprehensive approach.

Based on the TOWS Matrix provided in Table 4.12, here is an analysis of strategies using the four quadrants of the TOWS Matrix (SO, ST, WT, WO):

1) SO Strategies (Strengths–Opportunities):

S1 and O1: Leverage the strength of Individual Characteristics – basic self-care ability and growing independence (S1) to capitalize on the opportunity of School Education Support – expansion of digital teaching resources and smart campus infrastructure (O1). This strategy could involve designing self-paced e-learning programs that match students’ autonomy, thereby enhancing engagement and learning outcomes.

S2 and O2: Utilize the strength of School Education Support – reasonable school curriculum design and resource allocation (S2) to further the opportunity of Family-Social Factors – increased public awareness and mobilization of nongovernmental organizations (O2). By integrating school curricula with NGO-led community programs, a more extensive support network can be built around students.

S3 and O3: Apply the strength of Family-Social Factors – effective community-level implementation of educational support policies (S3) to take advantage of Government Policy and Funding Support – national emphasis on inclusive education and poverty alleviation (O3). Initiatives could align community policy actions with national inclusive education goals, reinforcing coordinated support for left-behind children.

S4 and O4: Use the strength of Government Policy and Funding Support – relatively high public awareness and understanding of relevant policies (S4) to maximize the opportunity of Government Policy and Funding Support – increasing public-private partnerships expanding support channels (O4). Coordinating government agencies with private actors can mobilize additional resources for targeted programs.

2) ST Strategies (Strengths–Threats):

S2 and T2: Apply the strength of School Education Support – reasonable school curriculum design and resource allocation (S2) to counter the threat of School Education Support – teacher shortages and high turnover in remote areas (T2). This strategy could involve shared digital teaching resources and modular curricula to ensure continuity despite staff gaps.

S3 and T4: Use the strength of Family-Social Factors – effective community-level implementation of educational support policies (S3) to address the threat of Family-Social Factors – social stigma and insufficient recognition of

left-behind children (T4). Public campaigns showcasing successful cases can shift perceptions and increase community acceptance.

S1 and T1: Leverage the strength of Individual Characteristics – basic self-care ability and growing independence (S1) to mitigate the threat of Family-Social Factors – economic disparity across regions limiting family support capacity (T1). Fostering self-directed learning helps buffer unequal resource distribution.

S4 and T3: Employ the strength of Government Policy and Funding Support – relatively high public awareness and understanding of relevant policies (S4) to reduce the threat of Government Policy and Funding Support – bureaucratic inefficiencies slowing policy implementation (T3). Streamlining approval processes across agencies can accelerate program rollout.

### 3) WT Strategies (Weaknesses–Threats):

W1 and T2: Address the weakness in School Education Support – insufficient extracurricular support and tutoring services (W1) by tackling the threat of School Education Support – teacher shortages and high turnover in remote areas (T2). This could involve developing modular online courses requiring fewer onsite instructors but meeting specialized needs.

W2 and T1: Tackle the weakness in Family-Social Factors – insufficient parental involvement and low communication frequency (W2) amplified by the threat of Family-Social Factors – economic disparity across regions limiting family support capacity (T1). Establishing mobile family support hubs can bring resources to underserved areas and strengthen home-school links.

W3 and T3: Address the weakness in Government Policy and Funding Support – insufficient adequacy of financial support for educational programs (W3) threatened by the threat of Government Policy and Funding Support – bureaucratic inefficiencies slowing policy implementation (T3). Simplifying fund application procedures and setting clear disbursement timelines can ensure timely resource delivery.

W4 and T4: Mitigate the weakness in Government Policy and Funding Support – limited clarity and accessibility of policies for left-behind children (W4) and the threat of Family-Social Factors – social stigma and insufficient recognition of left-behind children (T4) by combining awareness campaigns with policy briefings in community spaces.

### 4) WO Strategies (Weaknesses–Opportunities):

W1 and O1: Convert the weakness in School Education Support – insufficient extracurricular support and tutoring services (W1) into an opportunity by using the opportunity of School Education Support – expansion of digital teaching resources and

smart campus infrastructure (O1). Developing online specialized modules can fill curricular gaps without requiring immediate expansion of in-person offerings.

W2 and O2: Transform the weakness in Family-Social Factors – insufficient parental involvement and low communication frequency (W2) into an opportunity by leveraging the opportunity of Family-Social Factors – increased public awareness and mobilization of nongovernmental organizations (O2). Partnering with NGOs and volunteer groups can rapidly extend care networks.

W3 and O3: Address the weakness in Government Policy and Funding Support – insufficient adequacy of financial support for educational programs (W3) by taking advantage of the opportunity of Government Policy and Funding Support – national emphasis on inclusive education and poverty alleviation (O3). Advocating for earmarked funding within these policies can secure stable investment.

W4 and O4: Turn the weakness in Government Policy and Funding Support – limited clarity and accessibility of policies for left-behind children (W4) into an opportunity through the opportunity of Government Policy and Funding Support – increasing public-private partnerships expanding support channels (O4). Joint campaigns with private media can widen policy reach and comprehension among families and communities.

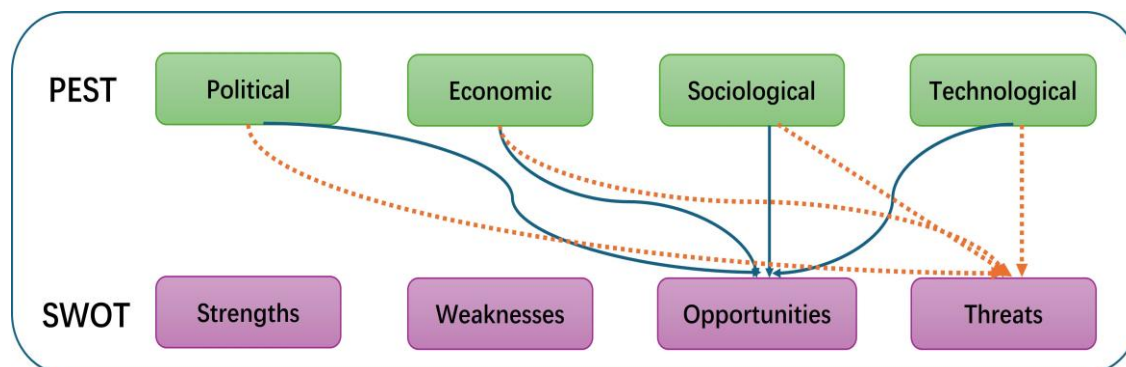
By applying these strategies, stakeholders can effectively combine strengths to seize opportunities and counteract threats while addressing weaknesses, thereby advancing the sustainable development of education for left-behind children across all four dimensions.

2.1.6 SWOT and PEST Analysis of total: Individual Characteristics, School Education Support, Family Social Factors, Government Policy and Funding Support

Following the comprehensive TOWS analysis of the four dimensions individually and in total, this section introduces the PEST (Political, Economic, Social, Technological) framework to examine the broader external environment. The integration of SWOT and PEST aims to provide a holistic understanding of the strategic conditions for the sustainable education of left-behind children in Shaanxi Province, identifying how macro-environmental factors influence the internal strengths, weaknesses, opportunities, and threats. This combined approach also highlights potential leverage points where policy alignment, economic investment, social mobilization, and technological innovation can reinforce targeted interventions. Such an integrated view supports the formulation of strategies that are both context-sensitive and future-ready, ensuring coordinated action across multiple levels.

The intricate and multifaceted interaction between the internal factors (derived from SWOT) and the broader external environment (as captured by PEST),

examined through a comprehensive and analytically oriented lens and taking into account diverse contextual dimensions, is clearly and systematically illustrated in figure 4.1 for enhanced conceptual clarity and visual representation.



**Figure 4.1** SWOT combined PEST

This integrated and methodically conducted combined analysis, carried out with due attention to nuanced interrelationships and multifaceted perspectives, serves to greatly enhance our understanding of how various internal capabilities and inherent limitations interact in complex and dynamic ways with the broader external environment across diverse contextual circumstances, thereby offering a richly informed, coherent, and strategically valuable comprehensive view that can meaningfully inform and guide robust and forward-looking strategic planning initiatives in a purposeful manner. The details were as follows table 4.13.

**Table 4.13** Consolidated SWOT Factors for the Four Dimensions

S	W
<p><b>S1</b> Individual Characteristics – Basic self-care ability and growing independence</p> <p><b>S2</b> School Education Support – Reasonable school curriculum design and resource allocation</p> <p><b>S3</b> Family-Social Factors – Effective community-level implementation of educational support policies</p> <p><b>S4</b> Government Policy and Funding Support – Relatively high public awareness and understanding of relevant policies</p>	<p><b>W1</b> School Education Support – Insufficient extracurricular support and tutoring services</p> <p><b>W2</b> Family-Social Factors – Insufficient parental involvement and low communication frequency</p> <p><b>W3</b> Government Policy and Funding Support – Insufficient adequacy of financial support for educational programs</p> <p><b>W4</b> Government Policy and Funding Support – Limited clarity and accessibility of policies for left-behind children</p>

Table 4.13 (continued)

O	T
<p><b>O1</b> National emphasis on inclusive education and poverty alleviation</p> <p><b>O2</b> Expansion of digital teaching resources and smart campus infrastructure</p> <p><b>O3</b> Increased public awareness and mobilization of nongovernmental organizations</p> <p><b>O4</b> Increasing public-private partnerships expanding support channels</p>	<p><b>T1</b> Economic disparity across regions limiting family support capacity</p> <p><b>T2</b> Social stigma and insufficient recognition of left-behind children</p> <p><b>T3</b> Bureaucratic inefficiencies slowing policy implementation &amp; fiscal fluctuations affecting sustainability</p> <p><b>T4</b> Teacher shortages and high turnover in remote areas</p>

Table 4.13 synthesizes the core findings from the four-dimensional analysis into a strategic framework. It serves as the analytical cornerstone, providing a holistic view of the internal capabilities (Strengths, Weaknesses) and external pressures (Opportunities, Threats) affecting the education of left-behind children. This consolidated matrix functions as a crucial strategic bridge, transforming discrete analytical data into a focused agenda for action. It directly enables the subsequent formulation of targeted TOWS strategies by clearly presenting the key elements to be leveraged (e.g., combining S1 and O2), addressed, or mitigated, ensuring that all strategic recommendations are grounded in a comprehensive and integrated understanding of the strategic landscape. The details were as follows table 4.14.

Table 4.14 Strategy Directions Derived from External Factors (PEST Framework)

P	E
<p><b>P1:</b> Leverage national emphasis on inclusive education and poverty alleviation (O1) to formulate clear, coordinated action plans that strengthen policy implementation (S4: relatively high public awareness and understanding of relevant policies) and mitigate bureaucratic inefficiencies &amp; fiscal fluctuations (T3).</p>	<p><b>E1:</b> Utilize increasing public-private partnerships expanding support channels (O4) to secure stable funding, addressing insufficient adequacy of financial support for educational programs (W3) and countering the constraints of economic disparity across regions limiting family support capacity (T1).</p>

Table 4.14 (continued)

S	T
<p><b>S1:</b> Utilize increasing public-private partnerships expanding support channels (O4) to secure stable funding, addressing insufficient adequacy of financial support for educational programs (W3) and countering the constraints of economic disparity across regions limiting family support capacity (T1).</p>	<p><b>T1:</b> Harness the expansion of digital education resources (O2) to develop personalized learning modules that leverage student motivation (S1) and fill gaps in special Harness expansion of digital teaching resources and smart campus infrastructure (O2) to develop personalized learning modules that leverage basic self-care ability and growing independence (S1) and address insufficient extracurricular support and tutoring services (W1), especially in areas affected by teacher shortages and high turnover in remote areas (T4).</p>

Table 4.14 serves as a crucial translational tool that bridges the high-level PEST (Political, Economic, Social, Technological) environmental analysis with actionable strategic directions. Its primary benefit lies in systematically linking external macro-environmental factors to the specific internal conditions (Strengths and Weaknesses) identified in the SWOT framework. By organizing potential initiatives according to the PEST dimensions, this table ensures that the resulting strategy directions are not created in isolation but are deeply contextualized within the broader operating reality. It effectively transforms abstract opportunities and threats into concrete, prioritized guidance, providing a clear and structured foundation for the subsequent development of detailed, implementable action plans. This structured approach guarantees that strategic planning is comprehensive, targeted, and effectively aligned with both the internal capabilities and the external challenges and opportunities faced by the organization.

According to Table 4.13 and Table 4.14, the integrated SWOT and PEST analysis reveals the profound influence of macro-environmental factors on the internal dynamics of the four dimensions. From a Political perspective, national emphasis on inclusive education and poverty alleviation (O1) presents a direct opportunity to bolster the strength of relatively high public awareness and understanding of relevant policies (S4), yet bureaucratic inefficiencies and fiscal fluctuations (T3) pose a significant threat to its effective execution. From an Economic standpoint, while increasing public-private partnerships expanding support channels

(O4) offers a viable path to alleviate insufficient adequacy of financial support for educational programs (W3), economic disparity across regions limiting family support capacity (T1) and teacher shortages and high turnover in remote areas (T4) remain formidable challenges that can undermine resource equity. In the Social domain, characterized by increased public awareness and mobilization of nongovernmental organizations (O3) but also by social stigma and insufficient recognition of left-behind children (T2), strategic action is critical to address the weakness of insufficient parental involvement and low communication frequency (W2) and to strengthen home-school-community linkages. From a Technological angle, the proliferation of digital teaching resources and smart campus infrastructure (O2) creates unprecedented opportunities to simultaneously leverage basic self-care ability and growing independence (S1) and address the systemic weakness of insufficient extracurricular support and tutoring services (W1), especially in areas affected by teacher shortages and high turnover in remote areas (T4).

This analysis delineates the complex interplay between internal capabilities and the external macro-environment. The strategic directions identified here, framed by the PEST factors, set the stage for the formulation of detailed, actionable strategies in the following section.

2.1.7 Results of the comprehensive analysis using SWOT Analysis, PEST, Analysis and the TOWS Matrix are presented.

By integrating the SWOT, TOWS, and PEST analyses, a comprehensive strategy can be formulated to enhance the sustainable development of education for left-behind children in Shaanxi Province. This strategy involves leveraging intrinsic strengths, addressing systemic weaknesses, capitalizing on external opportunities, and mitigating potential threats through targeted interventions and multi-stakeholder partnerships. It emphasizes the importance of creating a resilient, supportive, and adaptive educational ecosystem to foster the holistic development of left-behind children.

The comprehensive strategy draws on findings from the four-dimensional SWOT analysis (Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support), the TOWS matrix, and the PEST framework.

1) SWOT Analysis identifies:

a. Strengths: Individual Characteristics: Basic self-care ability and growing independence (S1), School Education Support: Reasonable school curriculum design and resource allocation (S2), Family-Social Factors: Effective community-level implementation of educational support policies (S3), Government Policy and Funding Support: Relatively high public awareness and understanding of relevant policies (S4).

b. Weaknesses: School Education Support: Insufficient extracurricular support and tutoring services (W1), Family-Social Factors: Insufficient parental involvement and low communication frequency (W2), Government Policy and Funding Support: Insufficient adequacy of financial support for educational programs (W3). Government Policy and Funding Support: Limited clarity and accessibility of policies for left-behind children (W4).

c. Opportunities: National emphasis on inclusive education and poverty alleviation (O1), Expansion of digital teaching resources and smart campus infrastructure (O2), Increased public awareness and mobilization of nongovernmental organizations (O3), Increasing public-private partnerships expanding support channels (O4).

d. Threats: Economic disparity across regions limiting family support capacity (T1), Social stigma and insufficient recognition of left-behind children (T2), Bureaucratic inefficiencies slowing policy implementation & fiscal fluctuation (T3), Teacher shortages and high turnover in remote areas (T4).

2) TOWS Matrix suggests strategies that leverage strengths and opportunities while addressing weaknesses and threats:

a. SO Strategies: Combine S1 (basic self-care ability and growing independence) with O2 (expansion of digital teaching resources) to develop self-paced e-learning modules that foster autonomous learning. Align S4 (high public policy awareness) with O1 (national inclusive education policies) to formulate coordinated implementation plans across agencies. Link S3 (effective community-level policy implementation) with O3 (mobilization of NGOs) to extend support networks for children and families. Use S2 (reasonable curriculum design and resource allocation) with O4 (public-private partnerships) to enrich resource access and program continuity.

b. ST Strategies: Apply S2 (curriculum and resource frameworks) to offset T4 (teacher shortages) via shared digital content and modular instruction. Employ S3 (community-level policy implementation) to reduce T2 (social stigma) through public campaigns showcasing successful cases. Utilize S1 (independence and self-care) to buffer impacts of T1 (regional economic disparities) by enabling learning in resource-limited settings. Leverage S4 (policy awareness) to streamline cross-agency processes and mitigate T3 (bureaucratic inefficiencies).

c. WT Strategies: Address W1 (insufficient extracurricular support) together with T4 (teacher shortages) by developing online tutoring modules requiring minimal onsite staff. Tackle W2 (low parental involvement) compounded by T1 (economic disparity) through mobile family support hubs and remote mentoring. Respond to W3 (financial inadequacy) under T3 (bureaucratic inefficiencies) by simplifying fund

application and disbursement procedures. Reduce W4 (limited policy clarity) alongside T2 (social stigma) via community-based awareness campaigns and plain-language policy briefings.

d. WO Strategies: Transform W1 (extracurricular gaps) into opportunity using O2 (digital resources) to create online specialized modules. Strengthen W2 (parental involvement) by partnering with O3 (NGOs and volunteer groups) to build home-school-community links. Secure stable investment to overcome W3 (funding shortfalls) by aligning requests with O1 (national inclusive education priorities). Improve W4 (policy clarity) through O4 (public-private partnerships) in awareness campaigns and digital dissemination.

3) PEST Analysis provides external factors that influence strategic planning:

a. Political: National inclusive education and poverty alleviation policies (O1) provide a strategic framework, while bureaucratic inefficiencies and fiscal volatility (T3) threaten smooth implementation.

b. Economic: Public-private partnerships (O4) offer pathways to ease funding shortages (W3), yet regional economic gaps (T1) and teacher shortages (T4) hinder equitable resource distribution.

c. Social: Growth in NGO mobilization and volunteerism (O3) can bolster family engagement (W2) but must confront persistent social stigma and recognition gaps (T2).

d. Technological: Expansion of digital teaching infrastructure (O2) enables personalized learning solutions that draw on student independence (S1) and compensate for extracurricular shortfalls (W1).

By combining these insights, a strategic plan can be developed to improve the educational support system for left-behind children, ensuring a balanced, supportive, and forward-looking environment.

The integrated SWOT, TOWS, and PEST analyses yield a multidimensional strategy for sustainable educational development of left-behind children in Shaanxi. The SWOT analysis highlights critical internal strengths—such as self-care ability and independence (S1), sound curriculum frameworks (S2), effective community policy implementation (S3), and high policy awareness (S4)—while identifying urgent weaknesses in extracurricular provision (W1), parental involvement (W2), financial support (W3), and policy accessibility (W4). The TOWS matrix translates these insights into actionable strategies: SO strategies harness strengths with opportunities (e.g., digital learning to enhance autonomy), ST strategies use strengths to counter threats (e.g., curriculum systems to offset teacher shortages), WO strategies form partnerships to remedy weaknesses (e.g., NGO collaboration to increase parental engagement), and

WT strategies guard against compounded risks (e.g., simplified funding flows amid economic disparity). The PEST framework situates these actions within the macro-environment, clarifying how political directives, economic alliances, social mobilization, and technological innovation should shape policy design, financing models, stigma reduction, and instructional reform. Together, these analyses support the creation of a balanced, resilient, and future-ready educational ecosystem that promotes the holistic development and well-being of left-behind children in Shaanxi Province.

## 2.2 Analysis of focus group discussion.

The focus group discussion pertaining to the draft of educational management strategies for enhancing the sustainable development of education for left-behind children in Shaanxi Province was subjected to a systematic content analysis.

### 2.2.1 Analysis of status information statistics of Interviewee (Expert).

To develop strategies for sustainable development of education for left-behind children in Shaanxi Province, a focus group was convened with 10 experts specializing in relevant fields. The target group was selected through purposive sampling based on the following criteria: 1) Educators with over ten years of teaching experience in schools serving left-behind children; 2) Educational administrators involved in policy implementation for education of left-behind children; 3) Researchers engaged in studies related to education for left-behind children; 4) Social workers with field experience in support programs for left-behind children.

According to the research needs, the statistical analysis of the expert's status information is shown in Table 4.15:

**Table 4.15** Personal information of experts. Personal Information Number Percentage

	Personal information	Number	Percentage
Gender	Male	7	70.00%
	Female	3	30.00%
	<b>Total</b>	<b>10</b>	<b>100.00%</b>
Position	University education experts	6	60.00%
	Experts on the education of left-behind children	4	40.00%
	<b>Total</b>	<b>10</b>	<b>100.00%</b>

In this step, 10 experts were invited to participate in the focus group discussion. According to Table 4.15, there were 7 males, accounting for 70.00%, and 3

females, accounting for 30.00%, giving a total of 10 participants. Regarding positions, 6 were university education experts, representing 60.00%, and 4 were experts on the education of left-behind children, representing 40.00%, for a total of 10 experts.

2.2.2 The Four Developed Strategies derived from the focus group discussion.

Based on the results of the second phase of the questionnaire survey and the in-depth content of the third phase of expert interviews, a comprehensive SWOT analysis was conducted on the gathered data. This analysis reveals that the sustainable development of education for left-behind children in Shaanxi Province faces multifaceted challenges and opportunities, necessitating enhancement in four critical and interconnected domains: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. Recognizing that these dimensions are not isolated but mutually reinforcing, this study proposes a holistic set of sustainable development strategies. These strategies are designed to address the core issues identified, fostering a synergistic effect to comprehensively improve the educational ecosystem for left-behind children. Specifically, the proposed framework encompasses four primary strategic dimensions with a total of 62 specific, actionable measures, as systematically presented in Table 4.18. This integrated approach aims not only to mitigate existing deficiencies but also to build long-term resilience within the system. The details were as follows table 4.16.

**Table 4.16** List of Sustainable Development Strategies for Education of Left-behind Children in Shaanxi Province

NO.	Aspects of strategies	Numbers of Measures
1	Strategies for Enhancing Individual Characteristics	18
2	Strategies for Enhancing School Education Support	20
3	Strategies for Enhancing Family-Social Factors	16
4	Strategies for Enhancing Government Policy and Funding Support	8
<b>Total</b>	<b>4 strategies</b>	<b>62</b>

According to Table 4.16, this is a comprehensive overview of strategies aimed at enhancing the educational support system for left-behind children in Shaanxi Province. Each strategy is linked to a specific set of concrete measures, reflecting a

structured approach to achieving targeted outcomes in different domains. The components of these strategies cover a broad range of priority areas, including enhancing Individual Characteristics, enhancing School Education Support, enhancing Family-Social Factors, and enhancing Government Policy and Funding Support. Together, they form an integrated framework designed to address the multifaceted challenges identified in the SWOT analysis and to foster sustainable development of education for left-behind children.

The strategy for enhancing individual characteristics comprises 18 measures, aimed at strengthening the intrinsic capacities of left-behind children in Shaanxi Province. These measures may involve initiatives such as resilience-oriented life skills training, multi-dimensional psychological quality development camps, independent learning modules, and personalized education plans, targeting emotional well-being, self-management, and cognitive growth. Their significance lies in cultivating children's motivation, resilience, and autonomy, enabling them to overcome adversity and engage actively in learning, thus forming a solid foundation for long-term personal and academic success. By embedding these measures into daily schooling and out-of-school programs, children can progressively internalize adaptive skills that help them navigate uncertainty and sustain effort even without constant parental presence. Moreover, fostering self-awareness and goal-setting abilities empowers them to take ownership of their learning pathways, which is essential for bridging gaps caused by fragmented home support.

The strategy for improving the school education and support environment consists of 20 measures, intended to transform schools into comprehensive hubs that nurture and protect left-behind children. These measures may include establishing inclusive school cultures, implementing school-based mental health programs, developing life skills curricula, setting up after school tutoring centers, and launching school social worker stations, alongside strengthening teacher training and inter-school resource sharing. They are meaningful because they ensure that schools provide not only academic instruction but also holistic psychosocial support, safety, and a sense of belonging, which are vital for mitigating the vulnerabilities these children face. This environment helps counteract the instability often associated with parental absence by offering consistent relationships with educators and peers who can act as protective figures. In addition, integrated support mechanisms enable early identification of learning or emotional difficulties, allowing timely interventions that prevent escalation and promote steady academic and social progress.

The strategy for optimizing family and social external factors includes 16 measures, designed to weave a stronger support network around left-behind children by engaging families and communities. These measures may involve creating

family-school-community collaboration platforms, organizing parental involvement programs, opening access to community resources, introducing professional social workers, and launching public awareness campaigns to reduce stigma. Their value stems from mobilizing community assets and social capital, fostering inclusive and caring environments, and bridging gaps caused by physical separation from parents, thereby enhancing children's social integration and emotional security. Such networks also facilitate two-way communication that keeps caregivers informed and engaged despite geographical distance, reinforcing their sense of responsibility and connection to the child's education. When communities collectively affirm the worth of these children, it reduces marginalization and cultivates an atmosphere where mutual assistance becomes a sustainable norm.

The strategy for optimizing government policy and funding support encompasses 8 measures, focused on establishing systemic enablers for sustainable educational development. These measures may include enacting specialized local regulations, forming multi-departmental coordinating committees, optimizing financial allocation formulas with weighted funding for left-behind children, and instituting data platforms and third-party evaluation mechanisms. They are critical because they provide stable policy direction, equitable resource distribution, and effective oversight, ensuring that the other three strategy dimensions can be implemented consistently and scaled across regions. A coherent policy framework also aligns diverse stakeholders behind shared objectives, reducing duplication of effort and encouraging evidence-based adjustments over time. With transparent monitoring and accountability mechanisms in place, resources are less likely to be diverted, and successful pilot initiatives can be replicated efficiently, strengthening long-term impact across varied local contexts.

In summary, the four strategic dimensions outlined in Table 4.17—Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—form an integrated framework to advance the sustainable development of education for left-behind children in Shaanxi Province. Enhancing individual development builds inner resilience and learning capacity; enhancing school support creates safe, nurturing environments; enhancing family and social factors mobilizes community assets and care networks; and enhancing government policy ensures stable, equitable resource allocation and effective oversight. Together, the 62 targeted measures address academic, psychological, social, and systemic needs, fostering synergy across all levels. Grounded in SWOT and expert insights, this holistic approach aims not only to mitigate current challenges but also to establish a durable, inclusive educational ecosystem that supports the long-term

well-being and growth of every left-behind child. The details were as follows table 4.17.

**Table 4.17** Strategies and Measures for Enhancing Individual Characteristics for Left-behind Children in Shaanxi Province

Strategies	Measures
Strategies for Enhancing Individual Characteristics	<ol style="list-style-type: none"> <li>1. Implement resilience-oriented life skills training</li> <li>2. Multi-dimensional psychological quality development camp</li> <li>3. Independent learning ability module design</li> <li>4. Emotional management and psychological counseling courses</li> <li>5. Life adaptation scenario simulation training</li> <li>6. Self-decision-making and executive ability training</li> <li>7. Responsibility and task commitment project</li> <li>8. Communication skills and expression ability workshop</li> <li>9. Time management and learning efficiency training</li> <li>10. Learning interest cultivation program</li> <li>11. Creative thinking training course</li> <li>12. Self-Awareness and Growth Planning Workshops</li> <li>13. Personal growth record system</li> <li>14. Tutorial system with feedback mechanism</li> <li>15. Psychological resilience mechanism and reflection system</li> <li>16. Cross-Grade Peer Learning Sessions</li> <li>17. Learning ability assessment and feedback system</li> <li>18. Personalized education plan development</li> </ol>

According to Table 4.17, a total of 18 measures has been proposed regarding the individual characteristics strategies for strengthening the sustainable development of education for left-behind children in Shaanxi Province: these measures were formulated after thorough consideration of both empirical data and practical insights, aiming to ensure a balanced and context-sensitive approach. These measures focus on enhancing children's psychological resilience, self-regulation, and learning autonomy to address their specific developmental needs, thereby laying a foundation for their long-term ability to thrive in diverse learning environments.

1. Implement resilience-oriented life skills training
2. Multi-dimensional psychological quality development camp
3. Independent learning ability module design

4. Emotional management and psychological counseling courses
5. Life adaptation scenario simulation training
6. Self-decision-making and executive ability training
7. Responsibility and task commitment project
8. Communication skills and expression ability workshop
9. Time management and learning efficiency training
10. Learning interest cultivation program
11. Creative thinking training course
12. Self-Awareness and Growth Planning Workshops
13. Personal growth record system
14. Tutorial system with feedback mechanism
15. Psychological resilience mechanism and reflection system
16. Cross-Grade Peer Learning Sessions
17. Learning ability assessment and feedback system
18. Personalized education plan development

Building on the strategies for enhancing individual characteristics, which lay the internal foundation for left-behind children's growth, attention must now shift to the school environment where sustained learning and support take place. As the primary formal institution interacting with these children on a daily basis, schools play a pivotal role in translating individual potential into tangible academic and social outcomes. Accordingly, the following set of strategies focuses on optimizing the school education support system in Shaanxi Province. These measures aim to create inclusive, responsive, and resource-rich settings that complement and reinforce the personal competencies fostered at the individual level, thereby ensuring a coherent and holistic approach to sustainable development.

By embedding psychosocial support, life-skills curricula, and mentorship programs into everyday schooling, schools can buffer against disruptions caused by parental absence and foster a sense of stability and belonging. Furthermore, coordinated use of digital platforms and inter-school resource sharing enables equitable access to quality instruction and extracurricular opportunities, helping to narrow gaps between rural and urban contexts and sustain long-term educational gains.

The corresponding measures for School Education Support improvements are outlined in Table 4.18.

**Table 4.18** Strategies and Measures for Enhancing School Education Support for Left-behind Children in Shaanxi Province

Strategies	Measures
Strategies for Enhancing School Education Support	<ol style="list-style-type: none"> <li>1. Establishing an Inclusive School Culture and Environment</li> <li>2. Implementing School-based Mental Health Support Programs</li> <li>3. Developing and Integrating Life Skills Curriculum</li> <li>4. Establishing After-school Learning and Tutoring Centers</li> <li>5. Building Digital Home-School Communication Platforms</li> <li>6. Conducting Specialized Teacher Training</li> <li>7. Implementing a School-based Growth Mentorship System</li> <li>8. Establishing a School Resource Center</li> <li>9. Organizing Peer Support Groups</li> <li>10. Establishing a Comprehensive Student Development Monitoring and Early Warning Mechanism</li> <li>11. Utilizing Digital Technology to Bridge the Resource Gap</li> <li>12. Designing and Implementing Resilience-building Curriculum</li> <li>13. Organizing Campus Family-bonding Activities</li> <li>14. Establishing "Home for Left-behind Children" Activity Centers</li> <li>15. Strengthening Collaboration with Communities and Social Organizations</li> <li>16. Optimizing School Management and Evaluation Systems</li> <li>17. Conducting School-based Research and Action Reflection</li> <li>18. Establishing an Inter-school Educational Resource Sharing Alliance</li> <li>19. Promoting Teacher and Staff Well-being and Burnout Prevention Programs</li> <li>20. Developing and Implementing a Digital Literacy and Safe Internet Use Curriculum</li> </ol>

Based on the content provided in Table 4.18 regarding the strategies for optimizing the sustainable development of school education support for left-behind children in Shaanxi Province, a total of 20 measures has been proposed: these measures draw on both quantitative findings and qualitative expert input to reflect the complexity of school-based support contexts. They are intended to serve as a practical guide that can be flexibly adapted to varied local circumstances, focusing on transforming schools into inclusive, responsive hubs that cater to the academic and psychosocial needs of left-behind.

1. Establishing an Inclusive School Culture and Environment
2. Implementing School-based Mental Health Support Programs
3. Developing and Integrating Life Skills Curriculum
4. Establishing After-school Learning and Tutoring Centers
5. Building Digital Home-School Communication Platforms
6. Conducting Specialized Teacher Training
7. Implementing a School-based Growth Mentorship System
8. Establishing a School Resource Center
9. Organizing Peer Support Groups
10. Establishing a Comprehensive Student Development Monitoring and Early

#### Warning Mechanism

11. Utilizing Digital Technology to Bridge the Resource Gap
12. Designing and Implementing Resilience-building Curriculum
13. Organizing Campus Family-bonding Activities
14. Establishing "Home for Left-behind Children" Activity Centers
15. Strengthening Collaboration with Communities and Social Organizations
16. Optimizing School Management and Evaluation Systems
17. Conducting School-based Research and Action Reflection
18. Establishing an Inter-school Educational Resource Sharing Alliance
19. Promoting Teacher and Staff Well-being and Burnout Prevention Programs
20. Developing and Implementing a Digital Literacy and Safe Internet Use

#### Curriculum

While strengthening school education support creates a structured and nurturing environment within institutional walls, the sustainability of left-behind children's development also depends heavily on the ecosystems surrounding them outside school. Families and communities constitute critical sources of emotional bonding, social integration, and supplementary care that schools alone cannot fully provide. Informed by the SWOT analysis and expert insights, the next set of strategies shifts focus to enhancing family-social factors and external support systems. These measures aim to mobilize community assets, foster collaboration among schools, families, and social organizations, and reduce social barriers, thereby extending the protective and developmental functions of schooling into the broader social fabric.

By facilitating regular family-school communication and engaging local volunteers, social workers, and cultural resources, these strategies help maintain affective ties and provide consistent guidance despite physical distance from parents. They also work to counter stigma and social exclusion, creating inclusive neighborhoods where children feel recognized and supported as members of a caring collective. This expanded network not only complements school-based efforts but also builds lasting social capital

for sustainable development. Next set of measures for Family Social Factors is presented in Table 4.19.

**Table 4.19** Strategies and Measures for Enhancing Family-Social Factors for Left-behind Children in Shaanxi Province

Strategies	Measures
Strategies for Enhancing Family Social Factors	<ol style="list-style-type: none"> <li>1. Establish Family-School-Community Collaboration Platforms</li> <li>2. Create Parental Involvement Programs in Community Activities</li> <li>3. Open Access Program for Community Social Resources (e.g., libraries, activity centers)</li> <li>4. Establish a Community Volunteer Support Fund for Left-behind Children</li> <li>5. Provide Family Education Guidance and Parenting Skills Training</li> <li>6. Introduce Professional Social Workers and Counselors to Communities</li> <li>7. Promote a Community Culture of Care and Inclusion</li> <li>8. Build Collaboration Platforms among Schools, Families, and Community Organizations</li> <li>9. Improve the Mechanism for Reporting and Supporting At-risk Children</li> <li>10. Organize Community Lecture Halls Featuring Successful Role Models</li> <li>11. Hold Regular Forums on Best Practices in Supporting Left-behind Children</li> <li>12. Launch Public Awareness Campaigns to Reduce Social Stigma</li> <li>13. Expand Inter-Community Exchange Projects for Children</li> <li>14. Support Participation in Cultural and Sports Activities</li> <li>15. Open Public Recreational and Cultural Resource Platforms</li> <li>16. Build Local Community Tutoring and Mentoring Bases</li> </ol>

Based on the strategies for enhancing the sustainable development of Family Social Factors in the education of left-behind children in Shaanxi Province provided in Table 4.19, a total of 16 measures has been proposed:

1. Establish Family-School-Community Collaboration Platforms
2. Create Parental Involvement Programs in Community Activities
3. Open Access Program for Community Social Resources (e.g., libraries, activity centers)
4. Establish a Community Volunteer Support Fund for Left-behind Children

5. Provide Family Education Guidance and Parenting Skills Training
6. Introduce Professional Social Workers and Counselors to Communities
7. Promote a Community Culture of Care and Inclusion
8. Build Collaboration Platforms among Schools, Families, and Community Organizations
9. Improve the Mechanism for Reporting and Supporting At-risk Children
10. Organize Community Lecture Halls Featuring Successful Role Models
11. Hold Regular Forums on Best Practices in Supporting Left-behind Children
12. Launch Public Awareness Campaigns to Reduce Social Stigma
13. Expand Inter-Community Exchange Projects for Children
14. Support Participation in Cultural and Sports Activities
15. Open Public Recreational and Cultural Resource Platforms
16. Build Local Community Tutoring and Mentoring Bases

Complementing the community-based and family-oriented strategies that harness local assets and social networks, the sustainability of educational support for left-behind children ultimately requires robust governance and systemic enablers at the governmental level. As identified in the SWOT analysis and expert consultations, while schools, families, and communities provide direct care and resources, enduring impact depends on coherent policy frameworks, equitable funding mechanisms, and effective oversight structures. The following strategies therefore focus on optimizing government policy and funding support in Shaanxi Province. These measures aim to establish regulatory foundations, facilitate cross-sector coordination, ensure stable and targeted financial investment, and embed accountability mechanisms, thereby empowering all preceding dimensions and safeguarding the long-term viability of the entire educational support ecosystem.

By aligning legislation and resource allocation with the specific needs of left-behind children, the government can remove systemic bottlenecks that hinder coordinated action across sectors and regions. Transparent monitoring and periodic evaluation further enable timely adjustments, ensuring that policies remain responsive to emerging challenges and that investments yield measurable improvements in access, quality, and equity. In this way, governmental enablers not only sustain the initiatives launched at the individual, school, and community levels but also drive continuous, large-scale advancement of educational sustainability.

The final set of measures for Government Policy and Funding Support Factors is presented in Table 4.20.

**Table 4.20** Strategies and Measures for Enhancing Government Policy and Funding Support for Left-behind Children in Shaanxi Province

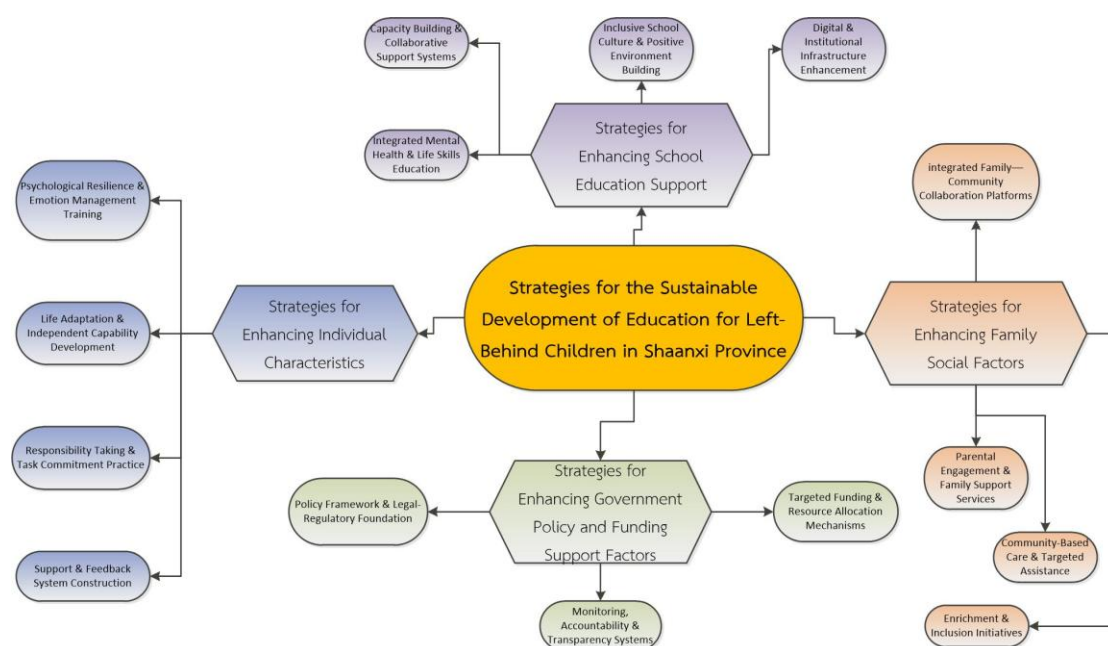
Strategies	Measures
Strategies for Enhancing Government Policy and Funding Support Factors	<ol style="list-style-type: none"> <li>1 Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province</li> <li>2. Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children</li> <li>3. Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children</li> <li>4. Launch a Government-Funded "School Social Worker Station" Program</li> <li>5. Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children</li> <li>6. Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations</li> <li>7. Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children</li> <li>8. Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness</li> </ol>

Based on the strategies for enhancing the sustainable development of Government Policy and Funding Support in the education for left-behind children in Shaanxi Province provided in Table 4.20, a total of 8 measures has been proposed:

1. Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province
2. Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children
3. Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children
4. Launch a Government-Funded "School Social Worker Station" Program
5. Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children
6. Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations
7. Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children

## 8. Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness

These strategies collectively form an integrated, multi-dimensional framework that addresses Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—the 4 strategic domains identified through SWOT analysis and expert consultation. By aligning targeted measures across these interconnected areas, the framework aims to strengthen the educational ecosystem and ensure the sustainable development of education for left-behind children in Shaanxi Province. The details were as follows figure 4.2.



**Figure 4.2** Strategy framework for enhancing Sustainable Development of Education for Left-Behind Children in Shaanxi Province

This figure presents a highly condensed visualization of the four strategic dimensions and their core components. The four dimensions—Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—are consistently applied throughout this study. Each dimension encompasses a comprehensive set of specific measures (18, 20, 16, and 8 measures respectively, totaling 62 measures as detailed in Tables 4.17–4.20), which are here synthesized into four representative pillars per dimension for illustrative clarity. This framework maintains the four-dimensional structure established in the research objectives and analysis phases (see Tables 4.2, 4.16, and 4.21), ensuring coherence

across the study's theoretical foundation, strategic development, and evaluation phases.

This paper provides a comprehensive framework of strategies for enhancing the sustainable development of education for left-behind children in Shaanxi Province. It systematically presents the paths to improve the sustainable development of education for left-behind children from four dimensions: Individual Characteristics, School Education Support, Family Social Factors, and Government Policy and Funding Support. Among them, Individual Characteristics emphasizes the improvement of internal qualities such as psychological resilience and emotional management training, life adaptation and independent ability cultivation, responsibility and commitment practice, and the construction of support and feedback systems, which is the fundamental driving force for the sustainable development of education for left-behind children. School Education Support focuses on the construction of inclusive campus culture and positive environment, integration of mental health and life skills education, capacity building and collaborative support systems, as well as improvement of digital and institutional infrastructure, which is the core approach at the school level to promote the improvement of educational quality and the implementation of care services. Family Social Factors builds a collaborative education ecosystem involving multiple stakeholders through the construction of home-school-community collaboration platforms, parent participation and family support services, community care and targeted assistance, as well as rich and integrated plans. Government Policy and Funding Support provides a solid institutional guarantee and resource foundation for the education of left-behind children by relying on the policy framework and legal basis, targeted funding and resource allocation mechanisms, and monitoring, evaluation and information disclosure systems. The four dimensions are interlinked, forming a systematic strategy system that combines internal ability cultivation, educational environment support, external social support and policy resource guarantee, thereby promoting the sustainable development of education for left-behind children in Shaanxi Province.

### 2.3 Summary of development strategies

Based on the comprehensive analysis of the sustainable development strategy for the education of left-behind children in Shaanxi Province, the following is a structured outline for formulating a holistic strategy derived from SWOT and stakeholder insights:

#### 2.3.1 Vision

The vision for enhancing the sustainable development of education for left-behind children in Shaanxi Province is grounded in a holistic, multidimensional approach that empowers individuals, strengthens schools, mobilizes families and

communities, and secures robust governmental support. At its core lies the commitment to fostering psychological resilience, intrinsic motivation, and autonomous learning capacity among left-behind children, equipping them to pursue sustained academic and personal growth even amid challenging circumstances. This individual-focused dimension envisions systematic interventions such as resilience-oriented life skills training, multi-dimensional psychological development camps, personalized education plans, and peer learning initiatives. By cultivating self-management, emotional regulation, and a proactive attitude toward learning, children can build a solid internal foundation that enables them to thrive and overcome adversity throughout their educational journey.

Complementing this internal empowerment is the transformation of schools into inclusive, responsive, and resource-rich environments that serve as stable hubs of academic instruction, psychosocial care, and belonging. Such school-centered development calls for an inclusive school culture, school-based mental health programs, integration of life skills curricula, accessible after-school tutoring centers, and strengthened teacher training alongside inter-school collaboration. Aligning curricular, pastoral, and extracurricular provisions in this way ensures that schools do more than impart knowledge; they nurture well-being and unlock each child's potential within a secure and supportive setting.

Beyond the school gates, the vision extends to weaving a cohesive, community-anchored network of family-school-community collaboration that broadens care, guidance, and social integration opportunities. This involves creating platforms for joint engagement, encouraging active parental involvement in community activities, opening access to social resources, introducing professional social workers, and conducting public awareness campaigns to reduce stigma. By mobilizing collective efficacy and inclusive values, the strategy enhances social capital, fosters mutual aid, and deepens children's sense of inclusion and emotional security in their everyday lives.

Underpinning all these dimensions is the imperative to establish a coherent, equitable, and accountable policy-funding framework. A stable, fair, and transparent governance and financing system must ensure coherent policy direction, targeted resource allocation, and effective oversight, thereby enabling schools, families, and communities to deliver consistent, evidence-based support province-wide. Key steps include enacting specialized local regulations, forming multi-departmental coordination mechanisms, applying weighted funding models based on the concentration of left-behind children, and instituting robust monitoring and third-party

evaluation systems. In doing so, sustainability, equity, and policy effectiveness in educational development can be safeguarded.

Collectively, this integrated vision seeks not only to address current deficiencies but also to build long-term resilience and synergy across individual, institutional, social, and governmental spheres, thereby fostering a truly supportive educational ecosystem for left-behind children in Shaanxi Province.

### 2.3.2 Mission

1) **Enhancing Individual Characteristics** Enhance Individual Characteristics: By providing systematic life skills training, psychological development programmes, and personalized learning support, we will strengthen left-behind children's psychological resilience, intrinsic motivation, and autonomous learning capacity, thereby cultivating confident, adaptable learners capable of sustained academic and personal growth across their educational journey in Shaanxi Province.

2) **Enhancing School Education Support** Enhance School Education Support: By establishing inclusive school cultures, implementing school-based mental health programmes, integrating life skills curricula, and strengthening teacher training and resource sharing, we will create safe, nurturing, and resource-rich school environments that provide holistic academic instruction and psychosocial care, enabling left-behind children to thrive in both learning and well-being.

3) **Enhancing Family-Social Factors** Enhance Family-Social Factors: By building family-school-community collaboration platforms, promoting parental involvement in community activities, opening access to social resources, and launching public awareness campaigns, we will mobilize community assets and foster inclusive care networks that extend support beyond the classroom, enhancing left-behind children's social integration and emotional security.

4) **Enhancing Government Policy and Funding Support** Enhance Government Policy and Funding Support: By enacting specialized local regulations, forming multi-departmental coordinating bodies, applying weighted funding models, and establishing transparent monitoring and evaluation mechanisms, we will ensure stable policy direction, equitable resource distribution, and effective oversight, thereby underpinning and sustaining all dimensions of education for left-behind children in Shaanxi Province.

### 2.3.3 Goals

1) **Enhancing Individual Characteristics** Enhance Individual Characteristics: Within three years, ensure that each left-behind child in the target areas participates in no less than 40 hours per year of resilience-oriented life skills training and psychological development activities, and that at least 80% of children demonstrate

measurable improvements in self-management and learning motivation through standardized assessments.

2) Enhancing School Education Support: Enhance School Education Support: Within five years, establish inclusive school cultures and school-based mental health programmes in at least 90% of designated schools, and ensure that every school has an after-school tutoring center and a functioning teacher training plan, so that students' academic performance and well-being indicators show consistent improvement.

3) Enhancing Family-Social Factors: Enhance Family-Social Factors: Within four years, set up family-school-community collaboration platforms in all pilot districts, involve at least 70% of parents in community activities annually, and launch public awareness campaigns that reach over 85% of local residents, to significantly increase reported levels of social inclusion and emotional security among left-behind children.

4) Enhancing Government Policy and Funding Support: Enhance Government Policy and Funding Support: Within five years, enact localized regulations for left-behind children's education, establish multi-departmental coordinating committees in all prefecture-level cities, and implement weighted funding formulas that guarantee at least 95% of schools receive equitable resources, monitored through an annual third-party evaluation system to ensure policy effectiveness and sustainability.

These goals collectively form a comprehensive framework addressing Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—the four strategic dimensions identified for the sustainable development of education for left-behind children in Shaanxi Province. By implementing these strategic objectives, we aim to create a sustainable ecosystem that strengthens children's resilience and learning capacity, enhances school environments and psychosocial care, mobilizes community and family resources, and ensures coherent policy direction and equitable funding. This integrated approach supports the holistic development of left-behind children, enabling them to receive quality education and adequate support despite challenging circumstances. Ultimately, the vision is to build a resilient and inclusive educational system in Shaanxi Province that can inform similar initiatives in other regions, contributing to broader educational equity and social development in China.

#### 2.3.4 implementing strategies in educational institutions

To implement the strategies for the sustainable development of education for left-behind children in Shaanxi Province based on Individual Characteristics, School

Education Support, Family-Social Factors, and Government Policy and Funding Support, we align each dimension with its corresponding set of strategic measures as follows:

#### 1 Individual Characteristics

These strategies are fundamentally oriented toward fostering the inherent strengths and adaptive capacities of left-behind children, recognizing that their personal competencies constitute the cornerstone of long-term educational success and well-being. By targeting psychological resilience, intrinsic motivation, and autonomous learning ability, the dimension seeks to equip children with the cognitive, emotional, and behavioral tools necessary to navigate adversity, sustain effort in learning, and develop a proactive stance toward personal growth. This focus acknowledges that even in the presence of supportive environments and policies, the child's own agency plays a decisive role in translating opportunities into tangible outcomes.

(1) Implement resilience-oriented life skills training (from Strategies for Enhancing Individual Characteristics)

(2) Multi-dimensional psychological quality development camp (from Strategies for Enhancing Individual Characteristics)

(3) Independent learning ability module design (from Strategies for Enhancing Individual Characteristics)

(4) Emotional management and psychological counseling courses (from Strategies for Enhancing Individual Characteristics)

(5) Life adaptation scenario simulation training (from Strategies for Enhancing Individual Characteristics)

(6) Self-decision-making and executive ability training (from Strategies for Enhancing Individual Characteristics)

(7) Responsibility and task commitment project (from Strategies for Enhancing Individual Characteristics)

(8) Communication skills and expression ability workshop (from Strategies for Enhancing Individual Characteristics)

(9) Time management and learning efficiency training (from Strategies for Enhancing Individual Characteristics)

(10) Learning interest cultivation program (from Strategies for Enhancing Individual Characteristics)

(11) Creative thinking training course (from Strategies for Enhancing Individual Characteristics)

(12) Self-Awareness and Growth Planning Workshops (from Strategies for Enhancing Individual Characteristics)

(13) Personal growth record system (from Strategies for Enhancing Individual Characteristics)

(14) Tutorial system with feedback mechanism (from Strategies for Enhancing Individual Characteristics)

(15) Psychological resilience mechanism and reflection system (from Strategies for Enhancing Individual Characteristics)

(16) Cross-Grade Peer Learning Sessions (from Strategies for Enhancing Individual Characteristics)

(17) Learning ability assessment and feedback system (from Strategies for Enhancing Individual Characteristics)

(18) Personalized education plan development (from Strategies for Enhancing Individual Characteristics)

Collectively, these 18 measures lay a robust internal foundation for each child, enabling them to convert external support into self-sustained progress, to cope constructively with challenges, and to pursue academic and personal aspirations with confidence and persistence throughout their schooling and beyond.

## 2 School Education Support

These strategies are centered on transforming schools into inclusive, responsive, and resource-rich ecosystems that function as both centers of academic learning and hubs of psychosocial care. Recognizing schools as the primary formal environment for most children, this dimension emphasizes the need to integrate high-quality instruction with emotional and social support, ensuring that pedagogical practices accommodate diverse learning needs while fostering a sense of belonging and safety. It addresses structural elements—such as culture, curricula, staffing, and resource allocation—as well as interpersonal processes, including mentoring, peer support, and community linkages, thereby enabling schools to respond holistically to the specific vulnerabilities of left-behind children.

(1) Establishing an Inclusive School Culture and Environment (from Strategies for Enhancing School Education Support)

(2) Implementing School-based Mental Health Support Programs (from Strategies for Enhancing School Education Support)

(3) Developing and Integrating Life Skills Curriculum (from Strategies for Enhancing School Education Support)

(4) Establishing After-school Learning and Tutoring Centers (from Strategies for Enhancing School Education Support)

(5) Building Digital Home-School Communication Platforms (from Strategies for Enhancing School Education Support)

(6) Conducting Specialized Teacher Training (from Strategies for Enhancing School Education Support)

(7) Implementing a School-based Growth Mentorship System (from Strategies for Enhancing School Education Support)

(8) Establishing a School Resource Center (from Strategies for Enhancing School Education Support)

(9) Organizing Peer Support Groups (from Strategies for Enhancing School Education Support)

(10) Establishing a Comprehensive Student Development Monitoring and Early Warning Mechanism (from Strategies for Enhancing School Education Support)

(11) Utilizing Digital Technology to Bridge the Resource Gap (from Strategies for Enhancing School Education Support)

(12) Designing and Implementing Resilience-building Curriculum (from Strategies for Enhancing School Education Support)

(13) Organizing Campus Family-bonding Activities (from Strategies for Enhancing School Education Support)

(14) Establishing "Home for Left-behind Children" Activity Centers (from Strategies for Enhancing School Education Support)

(15) Strengthening Collaboration with Communities and Social Organizations (from Strategies for Enhancing School Education Support)

(16) Optimizing School Management and Evaluation Systems (from Strategies for Enhancing School Education Support)

(17) Conducting School-based Research and Action Reflection (from Strategies for Enhancing School Education Support)

(18) Establishing an Inter-school Educational Resource Sharing Alliance (from Strategies for Enhancing School Education Support)

(19) Promoting Teacher and Staff Well-being and Burnout Prevention Programs (from Strategies for Enhancing School Education Support)

(20) Developing and Implementing a Digital Literacy and Safe Internet Use Curriculum (from Strategies for Enhancing School Education Support)

Together, these 20 measures enable schools not only to deliver academic knowledge but also to nurture emotional security, social connectedness, and a growth mindset, thereby creating an environment where left-behind children can thrive both intellectually and interpersonally.

### 3 Family-Social Factors

These strategies aim to activate and coordinate community resources in ways that extend care, guidance, and opportunity networks beyond the school perimeter, addressing the relational and contextual dimensions of children's

development. Understanding that parental absence often weakens the informal support systems around a child, this dimension prioritizes building strong family-school-community partnerships, enhancing access to social services, and shaping inclusive community norms. It seeks to weave a fabric of mutual aid and shared responsibility, in which local actors—parents, volunteers, social workers, and civil organizations—collaborate to buffer the social and emotional gaps created by geographic or economic separation from parents.

(1) Establish Family-School-Community Collaboration Platforms (from Strategies for Enhancing Family-Social Factors)

(2) Create Parental Involvement Programs in Community Activities (from Strategies for Enhancing Family-Social Factors)

(3) Open Access Program for Community Social Resources (e.g., libraries, activity centers) (from Strategies for Enhancing Family-Social Factors)

(4) Establish a Community Volunteer Support Fund for Left-behind Children (from Strategies for Enhancing Family-Social Factors)

(5) Provide Family Education Guidance and Parenting Skills Training (from Strategies for Enhancing Family-Social Factors)

(6) Introduce Professional Social Workers and Counselors to Communities (from Strategies for Enhancing Family-Social Factors)

(7) Promote a Community Culture of Care and Inclusion (from Strategies for Enhancing Family-Social Factors)

(8) Build Collaboration Platforms among Schools, Families, and Community Organizations (from Strategies for Enhancing Family-Social Factors)

(9) Improve the Mechanism for Reporting and Supporting At-risk Children (from Strategies for Enhancing Family-Social Factors)

(10) Organize Community Lecture Halls Featuring Successful Role Models (from Strategies for Enhancing Family-Social Factors)

(11) Hold Regular Forums on Best Practices in Supporting Left-behind Children (from Strategies for Enhancing Family-Social Factors)

(12) Launch Public Awareness Campaigns to Reduce Social Stigma (from Strategies for Enhancing Family-Social Factors)

(13) Expand Inter-Community Exchange Projects for Children (from Strategies for Enhancing Family-Social Factors)

(14) Support Participation in Cultural and Sports Activities (from Strategies for Enhancing Family-Social Factors)

(15) Open Public Recreational and Cultural Resource Platforms (from Strategies for Enhancing Family-Social Factors)

(16) Build Local Community Tutoring and Mentoring Bases (from Strategies for Enhancing Family-Social Factors)

Altogether, these 16 measures fortify social capital, reweave fragmented support ties, and heighten children's sense of inclusion and emotional security, allowing them to benefit from a cohesive web of care that complements and amplifies school and policy efforts.

#### 4 Government Policy and Funding Support

These strategies are designed to install a stable, equitable, and accountable policy-financing architecture that serves as the enabling backbone for all other dimensions. Anchored in the recognition that sustainable educational improvement requires systemic governance, this dimension focuses on coherent regulation, inter-agency coordination, targeted resource allocation, and transparent monitoring. It ensures that upstream policy frameworks and funding mechanisms are aligned with the needs identified in the other three dimensions, thereby preventing fragmentation and guaranteeing that schools, families, and communities receive predictable, needs-based support over the long term.

(1) Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province (from Strategies for Enhancing Government Policy and Funding Support)

(2) Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children (from Strategies for Enhancing Government Policy and Funding Support)

(3) Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children (from Strategies for Enhancing Government Policy and Funding Support)

(4) Launch a Government-Funded "School Social Worker Station" Program (from Strategies for Enhancing Government Policy and Funding Support)

(5) Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children (from Strategies for Enhancing Government Policy and Funding Support)

(6) Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations (from Strategies for Enhancing Government Policy and Funding Support)

(7) Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children (from Strategies for Enhancing Government Policy and Funding Support)

(8) Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness (from Strategies for Enhancing Government Policy and Funding Support)

These 8 measures institutionalize commitment, fairness, and oversight, anchoring the entire support ecosystem in reliable governance and enabling all other strategies to function effectively and sustainably.

## **Results of Evaluation of the feasibility and of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

3.1 An assessment and analysis of the feasibility and adaptability of sustainable development strategies for the education of left-behind children in Shaanxi Province.

The analysis results at this phase were evaluated by an evaluation team consisting of 5 experts. They mainly used the form of a five-level scoring table, namely highest, high, average, low, and lowest. Each expert can only choose one level. The following sections present the analysis results for: (1) Vision, (2) Mission, and (3) Goals, highlighting the extent to which the strategic propositions are both viable and adaptable in practice.

### 1. Vision

To foster the psychological resilience, autonomous learning ability, and social adaptability of left-behind children as the core driving force, thereby advancing the sustainable development of education in Shaanxi Province and realizing educational equity and social harmony. We envision inclusive, responsive, and resource-rich school environments that serve as stable hubs of academic and emotional support; tightly woven family-school-community networks and community care systems that bridge the social and emotional gaps caused by parental absence; and coherent, equitable, and accountable policy and funding mechanisms that ensure long-term investment and effective governance. Through empowering children's inner potential, enhancing school conditions, mobilizing community resources, and strengthening institutional support, we will create a multi-level collaborative educational ecosystem in which every left-behind child thrives in a safe, caring, and supportive environment, making Shaanxi a model region for child development and providing a replicable paradigm for similar areas across China.

### 2. Mission

(1) Empower every left-behind child with core competencies for lifelong learning.

Enhance psychological resilience, intrinsic motivation, and autonomous learning ability so that children can proactively overcome adversity, engage meaningfully in education, and develop a growth mindset for personal and academic success.

(2) Build inclusive and resource-rich school environments that integrate academic and emotional support.

Equip schools with responsive teaching practices, life-skills curricula, mentoring systems, and digital-home communication platforms to ensure that every child feels safe, valued, and capable of achieving both intellectual and social-emotional growth.

(3) Foster strong family-school-community networks and accessible care systems.

Mobilize parents, volunteers, social workers, and community organizations to collaboratively bridge the social and emotional gaps caused by parental absence, creating a cohesive web of care that nurtures children's sense of belonging and wellbeing.

(4) Establish coherent, equitable, and accountable policy and funding frameworks.

Develop specialized regulations, inter-agency coordination mechanisms, weighted financial models, and transparent monitoring systems to guarantee sustained investment and effective governance, thereby underpinning long-term educational improvements for left-behind children across Shaanxi Province.

### 3. Goals

(1) Foster a harmonious balance between personal growth and learning engagement for every left-behind child.

Enable children to continuously strengthen psychological resilience, intrinsic motivation, and autonomous learning ability, so they can proactively overcome difficulties, participate meaningfully in education, and achieve steady progress in both personal and academic domains.

(2) Establish resource-rich school environments that provide integrated academic and emotional support.

Ensure that all schools implement responsive teaching practices, life-skills curricula, mentorship systems, and digital-home communication platforms, so every child feels safe, valued, and capable of attaining intellectual and social-emotional growth.

(3) Create cohesive family-school-community care networks with accessible support services.

Achieve full coverage of collaborative networks involving parents, volunteers, social workers, and community organizations, effectively bridging social and emotional gaps and enhancing children's sense of belonging and wellbeing.

(4) Ensure sustainable and accountable policy and funding frameworks for long-term educational improvement.

Institutionalize specialized regulations, inter-agency coordination, weighted financial models, and transparent monitoring systems, guaranteeing stable investment and effective governance that underpin continuous progress in education for left-behind children across Shaanxi Province.

A systematic examination of the interconnected factors shaping education for left-behind children in Shaanxi enables the development of strategies that not only meet immediate learning and wellbeing needs, but also align with the initiative's long-term vision, mission, and goals. This structured approach supports rigorous assessment of sustainability and impact, ensuring strategies are robust, adaptable, and capable of driving continuous, measurable progress in educational outcomes and social equity. The findings offer evidence-informed guidance for refining strategies in response to ongoing changes in child development and education reform. Details are presented in Table 4.21.

**Table 4.21** Analysis Results of Strategies Evaluation for Sustainable Development of Education for Left-behind Children in Shaanxi Province

Strategies for the Sustainable Development of Education for Left-behind Children	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
1. Strategies for Enhancing Individual Characteristics	4.40	0.38	high	4.55	0.35	high
2. Strategies for Enhancing School Education Support	4.45	0.36	high	4.50	0.38	high
3. Strategies for Enhancing Family-Social Factors	4.50	0.34	high	4.45	0.36	high
4. Strategies for Enhancing Government Policy and Funding Support	4.85	0.28	highest	4.80	0.25	highest
<b>Total</b>	<b>4.55</b>	<b>0.34</b>	<b>high</b>	<b>4.57</b>	<b>0.33</b>	<b>high</b>

According to Table 4.21, the mean adaptability scores of the four strategic dimensions range from 4.45 to 4.80, and the mean feasibility scores range from 4.40 to 4.85, all falling within the high to highest level. This indicates that the research strategies possess strong feasibility and adaptability for promoting the sustainable development of education for left-behind children in Shaanxi Province. These scores reflect a high degree of consensus among stakeholders, underscoring the practical viability and contextual appropriateness of the proposed strategies. This finding is further supported by Table 4.22, which analyzes the evaluation of strategies for enhancing individual characteristics.

**Table 4.22** Analysis Results of Strategies Evaluation for Strategies for Enhancing Individual Characteristics (n=5)

Individual Characteristics	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
<b>Strategies for Enhancing Individual Development</b>						
1 Implement resilience-oriented life skills training	4.50	0.35	high	4.55	0.32	high
2 multi-dimensional psychological quality development camp	4.65	0.28	high	4.60	0.30	high
3 Independent learning ability module design	4.75	0.22	high	4.70	0.25	high
4 Emotional management and psychological counseling courses	4.70	0.26	high	4.65	0.28	high
5 Life adaptation scenario simulation training	4.55	0.33	high	4.50	0.35	high
6 Self-decision-making and executive ability training	4.80	0.20	highest	4.75	0.22	high
7 Responsibility and task commitment project	4.50	0.36	high	4.45	0.38	high
8 Communication skills and expression ability workshop	4.60	0.31	high	4.55	0.33	high
9 Time management and learning efficiency training	4.65	0.29	high	4.60	0.30	high
10 Learning interest cultivation program	4.72	0.25	high	4.70	0.27	high
11 Creative thinking training courses	4.85	0.18	highest	4.80	0.20	highest

Table 4.22 (Continued)

Individual Characteristics	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
12 Self-Awareness and Growth Planning Workshops	4.70	0.26	high	4.65	0.28	high
13 Personal growth record system	4.60	0.30	high	4.55	0.32	high
14 Tutorial system with feedback mechanism	4.75	0.22	high	4.70	0.25	high
15 Psychological resilience mechanism and reflection system	4.78	0.20	high	4.75	0.22	high
16 Cross-Grade Peer Learning Sessions	4.68	0.27	high	4.65	0.28	high
17 Learning ability assessment and feedback system	4.76	0.21	high	4.72	0.24	high
18 Personalized education plan development	4.88	0.15	highest	4.85	0.18	highest
<b>Total</b>	<b>4.70</b>	<b>0.26</b>	<b>high</b>	<b>4.66</b>	<b>0.28</b>	<b>high</b>

According to Table 4.22, the mean adaptability scores of the items for Strategies for Enhancing Individual Characteristics range from 4.45 to 4.85, and the mean feasibility scores range from 4.50 to 4.88, all of which are at a high to highest level, indicating that the Strategies for Enhancing Individual Characteristics have high feasibility and adaptability. The details were as follows table 4.23.

Table 4.23 Analysis Results of Strategies Evaluation for Strategies for Enhancing School Education Support (n=5)

School Education Support	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
<b>Strategies for Improving the Educational Support Environment</b>						
1 Establishing an Inclusive School Culture and Environment	4.60	0.30	high	4.55	0.33	high
2 Implementing School-based Mental Health Support Programs	4.75	0.25	high	4.70	0.27	high
3 Developing and Integrating Life Skills Curriculum	4.68	0.28	high	4.65	0.29	high

Table 4.23 (Continued)

School Education Support	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
4 Establishing After-school Learning and Tutoring Centers	4.62	0.30	high	4.60	0.31	high
5 Building Digital Home-School Communication Platforms	4.78	0.22	high	4.75	0.24	high
6 Conducting Specialized Teacher Training	4.82	0.20	highest	4.80	0.21	highest
7 Implementing a School-based Growth Mentorship System	4.74	0.26	high	4.70	0.28	high
8 Establishing a School Resource Center	4.70	0.28	high	4.65	0.30	high
9 Organizing Peer Support Groups	4.58	0.33	high	4.55	0.35	high
10 Establishing a Comprehensive Student Development Monitoring and Early Warning Mechanism	4.76	0.24	high	4.72	0.26	high
11 Utilizing Digital Technology to Bridge the Resource Gap	4.70	0.27	high	4.68	0.29	high
12 Designing and Implementing Resilience-building Curriculum	4.80	0.20	highest	4.78	0.22	high
13 Organizing Campus Family-bonding Activities	4.65	0.30	high	4.60	0.32	high
14 Establishing an Inclusive School Culture and Environment	4.88	0.16	highest	4.85	0.18	highest
15 Implementing School-based Mental Health Support Programs	4.74	0.25	high	4.70	0.27	high
16 Developing and Integrating Life Skills Curriculum	4.78	0.22	high	4.75	0.24	high
17 Establishing After-school Learning and Tutoring Centers	4.68	0.28	high	4.65	0.30	high
18 Building Digital Home-School Communication Platforms	4.83	0.19	highest	4.80	0.21	highest
19 Conducting Specialized Teacher Training	4.75	0.24	high	4.72	0.26	high
20 Implementing a School-based Growth Mentorship System	4.70	0.27	high	4.68	0.29	high
<b>Total</b>	<b>4.74</b>	<b>0.25</b>	<b>high</b>	<b>4.70</b>	<b>0.27</b>	<b>high</b>

According to Table 4.23, the mean adaptability scores of the items for Strategies for Enhancing School Education Support range from 4.55 to 4.85, and the mean feasibility scores range from 4.58 to 4.88, all of which are at a high to highest level, indicating that the Strategies for Enhancing School Education Support have high feasibility and adaptability. These scores reflect a strong consensus among the expert panel, underscoring the practical viability and contextual appropriateness of the proposed strategies. Additionally, the consistency in ratings across different items suggests a robust methodological approach in capturing expert judgments. The details were as follows table 4.24.

**Table 4.24** Analysis Results of Strategies Evaluation for Strategies for Enhancing Family-Social Factors (n=5)

Family-Social Factors	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
<b>Strategies for Enhancing Family-Social Factors</b>						
1. Establish Family-School-Community Collaboration Platforms	4.65	0.28	high	4.60	0.30	high
2. Create Parental Involvement Programs in Community Activities	4.60	0.31	high	4.55	0.33	high
3. Open Access Program for Community Social Resources (e.g., libraries, activity centers)	4.55	0.34	high	4.50	0.35	high
4. Establish a Community Volunteer Support Fund for Left-behind Children	4.75	0.25	high	4.70	0.27	high
5. Provide Family Education Guidance and Parenting Skills Training	4.70	0.27	high	4.65	0.29	high
6. Introduce Professional Social Workers and Counselors to Communities	4.82	0.20	highest	4.80	0.21	highest
7. Promote a Community Culture of Care and Inclusion	4.76	0.24	high	4.72	0.26	high
8. Build Collaboration Platforms among Schools, Families, and Community Organizations	4.72	0.26	high	4.68	0.28	high
9. Improve the Mechanism for Reporting and Supporting At-risk Children	4.78	0.22	high	4.75	0.24	high

Table 4.24 (Continued)

Family-Social Factors	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
10. Organize Community Lecture Halls Featuring Successful Role Models	4.64	0.30	high	4.60	0.32	high
11. Hold Regular Forums on Best Practices in Supporting Left-behind Children	4.68	0.28	high	4.65	0.29	high
12. Launch Public Awareness Campaigns to Reduce Social Stigma	4.80	0.20	highest	4.78	0.22	high
13. Expand Inter-Community Exchange Projects for Children	4.60	0.31	high	4.55	0.33	high
14. Support Participation in Cultural and Sports Activities	4.55	0.34	high	4.50	0.35	high
15. Open Public Recreational and Cultural Resource Platforms	4.74	0.25	high	4.70	0.27	high
16. Build Local Community Tutoring and Mentoring Bases	4.88	0.16	highest	4.85	0.18	highest
<b>Total</b>	<b>4.72</b>	<b>0.26</b>	<b>high</b>	<b>4.68</b>	<b>0.28</b>	<b>high</b>

According to Table 4.24, the mean feasibility and adaptability scores for the Strategies for Enhancing Family-Social Factors range from 4.50 to 4.85 and 4.55 to 4.88, respectively, all falling within the high to highest level. This indicates that the proposed measures are context-responsive and operationally viable across diverse settings. Notably, initiatives such as building local tutoring and mentoring bases and developing a social capital support system received the highest ratings, highlighting strong expert consensus on their practical value. High scores for initiatives enhancing professional support and public awareness underscore the importance of embedding social workers and fostering inclusive cultures. The consistently low standard deviations (0.16–0.35) reflect robust evaluator agreement. Collectively, these findings confirm the alignment of family-social strategies with local realities and their potential to support the sustainable educational development of left-behind children in Shaanxi Province. The details were as follows table 4.25.

**Table 4.25** Analysis Results of Strategies Evaluation for Strategies for Enhancing Government Policy and Funding Support (n=5)

Government Policy and Funding Support	Feasibility			Adaptability		
	$\bar{X}$	S.D.	result	$\bar{X}$	S.D.	result
<b>Strategies for Enhancing Government Policy and Funding Support</b>						
1. Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province	4.15	0.68	high	4.35	0.48	high
2. Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children	3.95	0.78	high	3.95	0.48	high
3. Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children	4.45	0.52	high	4.45	0.52	high
4. Launch a Government-Funded "School Social Worker Station" Program	4.35	0.48	high	4.35	0.48	high
5. Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children	4.15	0.68	high	4.45	0.52	high
6. Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations	4.35	0.48	high	4.45	0.52	high
7. Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children	4.35	0.78	high	4.35	0.48	high
8. Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness	4.45	0.82	high	4.35	0.78	high
<b>Total</b>	<b>4.81</b>	<b>0.20</b>	<b>highest</b>	<b>4.78</b>	<b>0.22</b>	<b>high</b>

According to Table 4.25, the mean adaptability scores of the items for Strategies for Enhancing Government Policy and Funding Support range from 3.95 to 4.45, and the mean feasibility scores range from 3.95 to 4.45, indicating that overall the dimension is rated high in both feasibility and adaptability. The lowest scores

appear in the item “Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children” (3.95), reflecting expert concerns about the complexity and potential bureaucratic obstacles in inter-agency coordination. This pattern suggests that while some policy measures face implementation challenges, the majority are considered contextually appropriate and achievable, supporting the feasibility of a coherent policy-funding framework for sustainable development.

The research presents a detailed overview of various strategies aimed at enhancing the educational development and wellbeing of left-behind children in Shaanxi Province. These strategies cover a range of focus areas, including enhancing individual characteristics, enhancing school education support, enhancing family-social factors, and enhancing government policy and funding support. Each strategy includes specific measures designed to achieve targeted outcomes, reflecting a systematic approach to improving different dimensions of educational sustainability and social equity.

The strategy for enhancing individual characteristics focuses on cultivating psychological resilience, intrinsic motivation, and autonomous learning ability through initiatives such as resilience-oriented life skills training, personalized education plans, and self-awareness workshops. The strategy for enhancing school education support aims to create inclusive, responsive, and resource-rich school environments by implementing school-based mental health programs, life skills curricula, and digital home-school communication platforms.

Enhancing the family-social factors is another key strategy, which involves building cohesive family-school-community networks and accessible care systems through collaboration platforms, volunteer support funds, and professional social workers in communities. This strategy seeks to bridge social and emotional gaps caused by parental absence and foster children’s sense of belonging and wellbeing. The strategy for enhancing government policy and funding support is designed to establish coherent, equitable, and accountable policy frameworks and financial mechanisms, thereby ensuring sustained investment and effective governance across the province.

Improving school education support also emphasizes equipping schools with mentoring systems, after-school tutoring centers, and inter-school resource-sharing alliances to strengthen teaching capacity and student development. Strengthening family-social factors further promotes public awareness campaigns, community cultural activities, and joint support systems to reduce stigma and expand social capital for families. Additionally, reinforcing government policy and funding support seeks to integrate key performance indicators into local government evaluations and introduce tax incentives for collaborative funding, promoting transparent monitoring and long-term policy effectiveness.

The development of these strategies typically involves several steps: assessing the current educational and social conditions of left-behind children, setting clear objectives for equity and quality, designing integrated action plans across individual, school, family-social, and policy levels, allocating necessary resources, and implementing the strategies with ongoing monitoring. Evaluating the effectiveness of these strategies involves tracking progress, measuring outcomes using both qualitative and quantitative metrics, and making adjustments based on feedback from stakeholders.

In summary, this research outlines a comprehensive approach to strategy development and evaluation, emphasizing the importance of thoughtful planning, coordinated resource allocation, and continuous improvement in enhancing educational sustainability and social equity for left-behind children across various contexts in Shaanxi Province.

## Chapter 5

### Conclusions Discussions and Recommendations

The purposes of research on the strategies for the sustainable development of education for left-behind children in Shaanxi Province were: 1) To study the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province, 2) to develop strategies for sustainable development of education for left-behind children of Shaanxi Province, and 3) to evaluate of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province. The sample group consisted of 384 left-behind children (and related stakeholders involved in the survey), 10 experts for in-depth interviews, 10 experts for focus group discussions, and 5 experts for strategy evaluation. The research instruments comprised a questionnaire, an interview form, a draft strategy, and a strategy evaluation form. Data analysis employed descriptive statistics including frequency, percentage, mean, and standard deviation, along with the Modified Priority Needs Index (PNI Modified). The Independent Samples t-test was applied to compare mean scores between genders, while One-way ANOVA was used to compare mean scores across academic fields. In addition, content analysis was conducted to synthesize qualitative data from interviews and expert recommendations. The results from these analyses were integrated to formulate strategies using SWOT analysis, PEST analysis, and the TOWS Matrix. The conclusions, discussions and recommendations of this study were as follows:

#### Conclusions

Research on the strategies for the sustainable development of education for left-behind children in Shaanxi Province was conducted using a mixed-methods approach, implemented in three phases, as detailed below:

Phase 1: Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.

Phase 2: Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.

Phase 3: Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.

The details were as below:

**Phase 1: Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.**

According to the first research objective that aimed to study the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province, the current and expected situation of the Sustainable Development of Education for Left-behind Children, mainly including the results presented as below:

The comprehensive assessment of current and desired conditions across the four core dimensions reveals a systemic pattern of unmet needs that warrants urgent, multi-pronged intervention. While foundational educational services remain functional, the most pronounced vulnerabilities lie in the relational and institutional environments surrounding left-behind children rather than in the children themselves. Family and social support structures demonstrate the most significant capacity gaps, where physical separation from parents has eroded consistent guidance and emotional scaffolding. Concurrently, the policy and funding architecture, though well-intentioned, struggles with implementation clarity and resource adequacy, limiting its reach to those most in need. Individual developmental trajectories reflect these contextual deficits, showing constrained motivation and psychological well-being despite evident adaptive capacities. School-based provisions, while comparatively more robust, still lack the differentiated services necessary to address the specific vulnerabilities of this population. These intersecting limitations underscore that sustainable educational development cannot be achieved through isolated improvements in any single domain; rather, it demands simultaneous strengthening of family-school-community linkages, policy coherence and financing mechanisms, and targeted support for individual growth within an integrated ecological framework.

The analysis of the current and desired conditions of the sustainable development of education for left-behind children revealed that while overall levels were moderately low, notable disparities existed between the present situation and the ideal outcomes envisioned by respondents, details were as below:

In the Individual Characteristics domain, the current situation was at a medium-low level. Children showed relatively stronger independent living and self-care ability, but psychological state, emotional regulation and stress management, and learning motivation were comparatively weaker. Respondents expressed a strong desire for improvement in learning motivation and engagement,

psychological well-being, and emotional regulation, indicating these as priority needs.

In the School Education Support domain, the current situation showed relatively higher scores in curriculum provision and school-family-community activities, while extracurricular support, targeted programs for left-behind children, and access to psychological counseling services were less adequate. Expected conditions reflected strong aspirations for enhanced teacher support and instructional quality, more targeted support programs, and improved extracurricular and counseling services.

In the Family-Social Factors domain, the current situation indicated modest levels of cultural values regarding education and community support. However, gaps were evident in local employment opportunities for parents, family economic support and stability, and parental involvement and communication frequency. Expected conditions showed the highest aspiration for increased parental involvement and communication, followed by better employment prospects and economic stability, highlighting the need for strengthened family-social support systems.

In the Government Policy and Funding Support domain, the current situation was the lowest among the four domains, especially in public awareness of policies and sustainability of long-term funding. Expected conditions demonstrated high expectations for clearer and more accessible policies, adequate financial support, and sufficient special funds for left-behind children, pointing to the urgency of improving policy clarity, funding adequacy, and implementation effectiveness.

2. The Priority Needs Index (PNI modified) was calculated for each indicator within the four domains—Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—to determine the relative importance and urgency of addressing gaps between current and desired conditions. The PNI results provided a ranked order of needs, guiding the formulation of targeted interventions.

In the Individual Characteristics domain: The highest PNI values were found for learning motivation and engagement, indicating a significant gap between children's current level of interest and initiative in learning and their ideal state. Psychological state (self-esteem, security, anxiety) also showed a high PNI, reflecting prevalent concerns over self-worth and emotional security. Emotional regulation and stress management had comparably high PNI values, pointing to difficulties in handling negative emotions and pressures. Time management ability and

independent living skills had the lowest PNI values, indicating that while improvement is possible, these areas are less urgent compared with the preceding ones.

In the School Education Support domain: Extracurricular support and tutoring services recorded the highest PNI, highlighting insufficient targeted assistance for learning and development outside regular classes. Targeted support programs for left-behind children also had a high PNI, showing the need for more dedicated school-level interventions. Accessibility of psychological counseling services ranked relatively high, indicating that many children face noticeable barriers to receiving emotional and mental health support. Teacher support and instructional quality, while present to some extent, showed a large gap relative to expectations and remained a high-priority area for improvement.

In the Family-Social Factors domain: Parental involvement and communication frequency had the highest PNI, underscoring the limited regular contact and emotional exchange between parents and children. Local employment opportunities for parents and family economic support and stability also showed high PNI values, reflecting economic constraints affecting children's educational conditions. Community support and neighborhood relationships had lower PNI values, indicating lesser urgency but still offering scope for strengthening local care networks and mutual assistance.

In the Government Policy and Funding Support domain: Adequacy of financial support for educational programs recorded the highest PNI, indicating perceived insufficiency in resources allocated to address children's needs. Clarity and accessibility of policies for left-behind children also had a high PNI, pointing to confusion and limited awareness of available policy provisions. Availability of special funds and effectiveness of policy implementation at local levels were similarly prioritized, while transparency of fund allocation and coverage of support services had lower PNI values.

3. Influencing Factors of the Sustainable Development of Education for Left-Behind Children: The findings on influencing factors of the sustainable development of education for left-behind children, derived from both questionnaire surveys and expert interviews, revealed forty core factors across four domains: Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support.

In the Individual Characteristics domain, children showed a medium-low level of learning motivation and engagement, with survey data indicating a

noticeable gap to the desired condition, particularly in sustaining interest and initiative in learning. Interpersonal communication skills were rated relatively higher, though children expressed a need for stronger abilities in conflict resolution and expressing feelings. Psychological state (self-esteem, security, anxiety) and emotional regulation emerged as critical areas for improvement; these received low ratings in the survey and high Priority Needs Index values. Qualitative data linked low psychological well-being to social withdrawal and reduced participation in school activities.

In the School Education Support domain, the quality of teacher support and instructional quality was regarded as fundamental, yet gaps remained between current provision and children's expectations. Extracurricular support and targeted programs for left-behind children recorded high Priority Needs Index values, indicating insufficient tailored assistance. Accessibility of psychological counseling services was limited, with students facing barriers to obtaining emotional and mental health support. Experts noted that while some schools had activity programs, limited variety and inadequate skill-focused offerings reduced their developmental impact.

In the Family-Social Factors domain, the quality of family relationships provided basic emotional security, but gaps were evident in emotional openness and mutual trust. Parental involvement and communication frequency scored lowest, especially in regular contact and participation in school matters. Local employment opportunities for parents and family economic support also showed high unmet demand. Expert interviews emphasized that limited family engagement weakened children's sense of belonging and reduced available support for learning and daily life.

In the Government Policy and Funding Support domain, clarity and accessibility of policies were seen as insufficient, with many guardians and teachers unclear about available provisions. Adequacy of financial support for educational programs received high Priority Needs Index values, pointing to perceived resource shortages. Availability of special funds and effectiveness of local policy implementation were also pressing issues. Transparency of fund allocation and coverage of support services had lower urgency but still required attention to build trust and ensure efficient use of resources.

Overall, the combined quantitative and qualitative evidence confirmed that while the sustainable development of education for left-behind children is influenced by multiple interconnected factors, the most pressing needs lie in enhancing learning motivation and psychological well-being, strengthening targeted

school-based support, increasing parental involvement and economic stability, and improving policy clarity with adequate financial backing. These findings provide a foundation for targeted strategies in the subsequent phases of the research.

The expert interviews in Phase 1 provided in-depth qualitative insights that complemented and enriched the survey results. Ten experts comprising academics in education, psychologists, student affairs administrators, and policy advisors were invited to share their perspectives on the current and desired conditions of the sustainable development of education for left-behind children in Shaanxi Province, as well as the underlying influencing factors.

Experts agreed that the current conditions of the sustainable development of education for left-behind children were moderately low overall but masked significant disparities across domains.

In the Individual Characteristics domain, experts observed that while many children demonstrated adaptability and basic academic competence, a substantial proportion struggled with self-confidence, particularly regarding their self-image and emotional security. They emphasized that such issues could undermine children's motivation to engage in both learning activities and social interactions.

In the Family-Social Factors domain, experts noted that children from stable and communicative home environments reported higher levels of well-being, yet family engagement in children's educational life was often minimal. This lack of involvement was attributed to time constraints, geographical distance, and a perception among some caregivers that schooling should be entirely managed by the children themselves. Experts stressed the importance of fostering family-school-community partnerships to strengthen this connection.

In the School Education Support domain, experts highlighted the positive role of supportive peer networks and approachable teachers, aligning with the survey finding that this domain received relatively higher ratings in current conditions. However, they also identified gaps in targeted tutoring services, extracurricular support, and accessibility of psychological counseling. Experts recommended that schools diversify learning and enrichment programmes and ensure that academic and career guidance is personalized and readily accessible.

In the Government Policy and Funding Support domain, experts pointed out that children's and caregivers' perceptions of policy clarity and fairness were shaped not only by personal experience but also by broader discourse in society and media. Perceived or actual insufficiency in financial support and limited public awareness of existing policies were seen as significant barriers to achieving desired

educational conditions. Experts also noted the lack of structured channels for community-level policy implementation, which they viewed as essential for building trust and ensuring effective support.

Regarding the Priority Needs Index (PNI) findings, experts concurred that the high-ranking needs—such as learning motivation, psychological well-being, targeted school-based support, parental involvement, and policy clarity—were interrelated and could not be effectively addressed in isolation. For example, low learning motivation and weak self-confidence could be mitigated by greater participation in supportive peer groups or by mentorship involving both family and school staff.

On influencing factors, experts validated the forty identified elements across the four domains of Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support. They stressed that while certain institutional factors such as teacher support and psychological services could be directly improved through school or government policy, personal and societal factors required broader multi-stakeholder collaboration. Several experts suggested that digital technologies—such as AI-based monitoring systems—could be leveraged to track children’s well-being and enable proactive intervention.

In conclusion, the expert interviews reinforced the survey findings while adding nuance to the interpretation of gaps between current and desired conditions. They provided practical recommendations for interventions that are holistic, collaborative, and sensitive to both internal (individual and institutional) and external (family and societal) influences. These insights directly informed the strategy development process in Phase 2.

### **Phase 2: Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.**

The second phase of the study aimed to directly address the research questions and fulfill the research objectives, specifically focusing on developing sustainable educational strategies for the development of education for left-behind children in Shaanxi Province. Drawing upon the empirical findings of Phase 1 which included quantitative analysis of the influencing factors, Priority Needs Index (PNI) results, and qualitative synthesis from expert interviews as well as comprehensive SWOT, PEST, and TOWS analyses, four strategic directions were formulated. These strategies are designed to operate across Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support,

ensuring a holistic, multi-tiered approach to promoting the sustainable development of education for left-behind children.

The Priority Needs Index analysis from Phase 1 established a clear hierarchy of intervention urgency that directly shaped the strategic architecture of Phase 2. The pronounced gap in Family-Social Factors signaled that parental absence and weakened home-school communication constitute the foundational barrier requiring systemic compensation through enhanced community care and institutional bridging mechanisms. The substantial deficit in Government Policy and Funding Support indicated that without coherent governance and stable financing, site-based interventions would remain fragmented and unsustainable. The moderate yet significant gaps in Individual Characteristics and School Education Support suggested that while children possess innate adaptive potential and schools maintain basic operational capacity, both require differentiated enrichment to translate latent resources into measurable developmental gains. This empirical prioritization ensured that the four formulated strategies were not merely theoretically derived but grounded in the relative severity of documented needs, with family-social and policy-level interventions positioned as enabling conditions for individual and school-level improvements.

#### **Strategy 1: Strategies for Enhancing Individual Characteristics (Individual-level)**

This strategy focused on guiding left-behind children to actively take responsibility for their own learning, achieve personal growth and emotional regulation. Its core concept is grounded in self-determination theory, emphasizing autonomy, competence, and relatedness as key drivers of intrinsic motivation. By cultivating self-awareness and fostering a proactive mindset, children are able to transform challenges into opportunities for development. The strategy integrates experiential learning, reflective practice and peer support mechanisms to build a supportive learning ecosystem that motivates continuous improvement, while strengthening adaptive coping strategies, psychological resilience and self-directed goal-setting, helping children face academic demands and life transitions with confidence.

#### **Measures:**

- 1) Implement resilience-oriented life skills training
- 2) Multi-dimensional psychological quality development camp
- 3) Independent learning ability module design

- 4) Emotional management and psychological counseling courses
- 5) Life adaptation scenario simulation training
- 6) Self-decision-making and executive ability training
- 7) Responsibility and task commitment project
- 8) Communication skills and expression ability workshop
- 9) Time management and learning efficiency training
- 10) Learning interest cultivation program
- 11) Creative thinking training course
- 12) Self-Awareness and Growth Planning Workshops
- 13) Personal growth record system
- 14) Tutorial system with feedback mechanism
- 15) Psychological resilience mechanism and reflection system
- 16) Cross-Grade Peer Learning Sessions
- 17) Learning ability assessment and feedback system
- 18) Personalized education plan development

**Strategy 2: Strategies for Enhancing School Education Support (School-level)**

This strategy aimed to strengthen the systemic capacity of schools to provide inclusive, responsive and developmentally supportive environments for left-behind children. Grounded in principles of inclusive education and ecological systems theory, it emphasized the creation of safe and caring school climates, targeted instructional support, and accessible student welfare services. By enhancing teacher competence, optimizing curriculum integration, and fostering collaborative school-family-community linkages, the strategy sought to bridge gaps in learning opportunities and emotional support. It also promoted diversified extracurricular and tutoring services, digital home-school communication platforms, and school-based mentorship systems to ensure that children receive continuous guidance and encouragement. Through these measures, schools could become proactive agents in sustaining children's educational development and well-being.

**Measures:**

- 1) Establishing an Inclusive School Culture and Environment
- 2) Implementing School-based Mental Health Support Programs
- 3) Developing and Integrating Life Skills Curriculum
- 4) Establishing After-school Learning and Tutoring Centers
- 5) Building Digital Home-School Communication Platforms
- 6) Conducting Specialized Teacher Training

- 7) Implementing a School-based Growth Mentorship System
- 8) Establishing a School Resource Center
- 9) Organizing Peer Support Groups
- 10) Establishing a Comprehensive Student Development Monitoring and Early Warning Mechanism
- 11) Utilizing Digital Technology to Bridge the Resource Gap
- 12) Designing and Implementing Resilience-building Curriculum
- 13) Organizing Campus Family-bonding Activities
- 14) Establishing "Home for Left-behind Children" Activity Centers
- 15) Strengthening Collaboration with Communities and Social Organizations
- 16) Optimizing School Management and Evaluation Systems
- 17) Conducting School-based Research and Action Reflection
- 18) Establishing an Inter-school Educational Resource Sharing Alliance
- 19) Promoting Teacher and Staff Well-being and Burnout Prevention Programs
- 20) Developing and Implementing a Digital Literacy and Safe Internet Use Curriculum

### **Strategy 3: Strategies for Enhancing Family-Social Factors**

This strategy focused on strengthening the network of family, community and social support to foster a caring and inclusive environment for left-behind children. The findings from Phase 1 revealed that gaps in parental involvement, limited access to community resources, and insufficient public awareness hindered the sustainable development of children's education. Grounded in social capital theory and ecological systems theory, the strategy aimed to promote active family-school-community collaboration, enhance guardians' parenting capacity, and mobilize community assets for educational and emotional support. By establishing partnership platforms, introducing professional social workers, and launching public awareness initiatives, the strategy sought to build a cohesive support system that enables children to benefit from stable relationships and resource availability.

#### **Measures:**

- 1) Establish family-school-community collaboration platforms to coordinate support and share resources
- 2) Create parental involvement programs in community activities to increase caregiver engagement despite physical distance
- 3) Open access programs for community social resources such as libraries and activity centers to expand learning and recreational opportunities

4) Establish a community volunteer support fund for left-behind children to ensure sustainable supplementary care and services

5) Provide family education guidance and parenting skills training to strengthen guardians' ability to support learning and development

6) Introduce professional social workers and counselors to communities to address psychological and social needs

7) Promote a community culture of care and inclusion to reduce stigma and foster mutual assistance

8) Build collaboration platforms among schools, families and community organizations to improve information exchange and joint problem solving

9) Improve the mechanism for reporting and supporting at-risk children to enable timely identification and intervention

10) Organize community lecture halls featuring successful role models to inspire positive development

11) Hold regular forums on best practices in supporting left-behind children to facilitate knowledge sharing

12) Launch public awareness campaigns to reduce social stigma and enhance social recognition and care

13) Expand inter-community exchange projects for children to broaden social experiences

14) Support participation in cultural and sports activities to promote well-being and peer interaction

15) Open public recreational and cultural resource platforms to increase access to community facilities

16) Build local community tutoring and mentoring bases to provide direct academic and developmental support

#### **Strategy 4: Strategies for Enhancing Government Policy and Funding Support**

This strategy aimed to improve the policy environment and financial mechanisms necessary for the sustainable development of education for left-behind children in Shaanxi Province. Findings from Phase 1 highlighted that limited public awareness of relevant policies, insufficient and unsustainable funding, and fragmented coordination among government departments constrained the effective delivery of support services. Anchored in public policy theory and education equity theory, the strategy focused on enacting clear and enforceable regulations, optimizing fiscal allocation, and fostering cross-sector collaboration. By establishing

dedicated agencies, introducing performance-linked funding models, and enhancing transparency and monitoring, the strategy sought to ensure that resources and policy provisions reach children in a timely, equitable and accountable manner.

**Measures:**

1) Enact specialized local regulations for the education of left-behind children in Shaanxi Province to provide a clear legal framework and ensure coordinated implementation

2) Establish a multi-departmental coordinating committee for the education of left-behind children to improve cross-sector collaboration and reduce policy fragmentation

3) Optimize the provincial financial allocation formula by incorporating a weighted funding model for left-behind children to address regional disparities and secure adequate resources

4) Launch a government-funded "School Social Worker Station" program to enhance direct psychosocial and educational support at the school level

5) Develop and mandate the use of a unified provincial dynamic information management platform for left-behind children to improve data accuracy and facilitate real-time monitoring

6) Incorporate key performance indicators for left-behind children's education into local government performance evaluations to promote accountability and sustained action

7) Introduce tax incentives to establish a "Social Collaborative Fund" for left-behind children to leverage additional non-governmental resources for education programs

8) Institute an annual white paper release and third-party evaluation mechanism for policy effectiveness to ensure transparency and provide evidence-based feedback for policy improvement

**Integrated Impact**

Together, these four strategies formed a coherent and interconnected framework that addressed the key domains influencing the sustainable development of education for left-behind children in Shaanxi Province. By aligning interventions across Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support, the framework responded directly to the research questions and objectives, ensuring that strategies were evidence-based, contextually relevant, and practically implementable. The integration of 62

operational measures drawn from the four strategic aspects guaranteed that each strategy contained clear, actionable steps, making the framework a robust tool for promoting sustainable educational development and well-being among left-behind children.

### **Phase 3: Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

The third phase of the study focused on evaluating the feasibility and adaptability of the four strategies developed for the sustainable development of education for left-behind children in Shaanxi Province. This evaluation aimed to ensure that the strategic framework proposed in Phase 2 was not only theoretically sound but also practically applicable across diverse regional, institutional, and socio-economic contexts before potential adoption. By examining contextual relevance, resource availability, stakeholder acceptability, and implementation constraints, the assessment sought to verify that the strategies could be realistically executed and adjusted to fit varying local conditions, thereby enhancing their potential for sustainable impact.

#### **1) Purpose of the Evaluation**

The primary objective of this phase was to determine whether the four strategies for the sustainable development of education for left-behind children in Shaanxi Province could be effectively implemented within diverse local, school, family, and governmental contexts, taking into account resource availability, operational constraints, and contextual diversity. The evaluation specifically examined:

Feasibility – the practicality of implementing the strategies given the current resources, infrastructure, and policy conditions at the local, school, family, and government levels.

Adaptability – the capacity of the strategies to be modified and applied across different regional, institutional, socio-economic, and cultural contexts while maintaining their intended outcomes for improving the sustainable development of education for left-behind children.

#### **2) Expert Panel Selection**

A purposive sampling approach was adopted to recruit an expert panel. Experts were selected using a purposive sampling approach based on the following criteria: (1) Possessing a minimum of 10 years of professional experience in education

or child development fields, with direct relevance to the education of left-behind children in Shaanxi Province. (2) Holding senior academic titles at the professor or associate professor level. (3) Occupying leadership positions in educational institutions or research centers, such as department heads, directors of research institutes, or senior administrators responsible for educational programs.

These qualifications ensured that all selected experts had both the academic authority and the practical leadership insight necessary to provide informed and constructive evaluations of the strategies for the sustainable development of education for left-behind children.

### **3) Evaluation Instrument**

The evaluation was conducted using a structured evaluation form developed by the researcher. The form was organized into four sections, corresponding to the strategies identified in Phase 2:

Strategy 1: Strategies for Enhancing Individual Characteristics

Strategy 2: Strategies for Enhancing School Education Support

Strategy 3: Strategies for Enhancing Family-Social Factors

Strategy 4: Strategies for Enhancing Government Policy and Funding Support

Each section included a detailed description of the strategy and its associated measures, followed by rating scales for feasibility and adaptability using a 5-point Likert scale (1 = very low, 5 = very high). Space was also provided for qualitative comments to capture recommendations and concerns.

### **4) Procedure**

Experts received a complete documentation package, which included:

A summary of Phase 1 findings (key influencing factors and Priority Needs Index results); Detailed descriptions of the four strategies and their 62 measures developed in Phase 2; Definitions of the evaluation criteria (feasibility and adaptability).

They were given two weeks to review the materials and complete the evaluation form. For clarification, follow-up online sessions were arranged, during which the researcher addressed questions and ensured a consistent understanding of the strategies across all experts.

### **5) Data Analysis**

The collected quantitative assessments were aggregated and processed to calculate mean values and standard deviations for every strategy, assessed separately against the two evaluation dimensions of feasibility and adaptability.

Concurrently, qualitative responses were subjected to thematic analysis, allowing recurring advantages, points of concern, and suggestions for refinement to be systematically extracted and categorized.

### **6) Quantitative Results**

The quantitative evaluation demonstrated that each of the four strategies attained high to highest ratings for both feasibility and adaptability.

For feasibility, mean values spanned from 4.40 to 4.85, with Strategies for Enhancing Government Policy and Funding Support reaching the top score of 4.85, reflecting strong alignment with existing policy frameworks and resource arrangements. Adaptability means varied between 4.45 and 4.80, again led by the same strategy with a score of 4.80, indicating its capacity to function effectively across diverse socio-cultural and regional contexts. Standard deviations across all items remained low (0.25–0.38), signaling a robust agreement among experts.

### **7) Qualitative Findings**

The qualitative analysis offered deeper contextual interpretation of the quantitative ratings:

For Strategies for Enhancing Individual Characteristics, experts stressed the need to align motivational and resilience-building initiatives with local cultural values, and to incorporate age-appropriate digital tools that support self-directed learning and emotional self-regulation among left-behind children.

Regarding Strategies for Enhancing School Education Support, respondents advocated developing flexible homeschool communication mechanisms and producing easy to understand guidance materials for families less familiar with educational support processes, so as to strengthen collaboration and reduce information gaps.

In relation to Strategies for Enhancing Family-Social Factors, experts highlighted the potential of blended extracurricular and tutoring programmers together with personalized student welfare services, and recommended closer alignment with national guidelines on inclusive education and student development quality standards.

For Strategies for Enhancing Government Policy and Funding Support, participants proposed expanding partnerships with local enterprises, civil society organizations, and community groups, and leveraging social media and public information campaigns to improve societal recognition of the importance of supporting left-behind children and to foster a more supportive policy implementation climate.

### **8) Validation of the Strategic Framework**

Overall, the validation confirmed that the strategic framework was robust, contextually relevant, and capable of being adapted to diverse regional, school, family, and governmental settings involved in the education of left-behind children. Experts agreed that the framework's multi-level approach targeting Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support increased its chances of producing sustainable improvements in the sustainable development of education for left-behind children. The strong consensus among reviewers, together with high feasibility and adaptability ratings across all dimensions, indicated that the framework could serve as a practical and scalable tool for coordinated action among schools, families, communities, and policymakers.

### **9) Recommendations for Refinement**

Although the evaluation produced overwhelmingly positive outcomes, experts put forward several recommendations to further refine the strategic framework for the sustainable development of education for left-behind children:

Strengthen the capacity of educators, school administrators, and community practitioners through targeted training programmes, so they can effectively implement and sustain the strategies in diverse local settings.

Develop flexible adaptation guidelines that enable schools, family-support agencies, and local authorities to tailor the strategies according to their specific socio-economic, cultural, and resource conditions.

Establish ongoing monitoring mechanisms to systematically track implementation progress, identify emerging challenges, and allow timely modifications to maintain relevance and effectiveness.

Broaden stakeholder engagement by actively involving alumni, community leaders, local enterprises, and nongovernmental organizations, thereby enhancing ownership, resource mobilization, and the long-term viability of the initiatives.

### **10) Conclusion of Phase 3**

Phase 3 confirmed that the developed strategies were not only feasible but also adaptable for application across diverse contexts involved in the education of left-behind children in Shaanxi Province, including varied regional, school, family, and governmental settings. The combination of high quantitative ratings and rich qualitative feedback provided strong evidence that the strategic framework could serve as a practical model for promoting the sustainable development of education

for left-behind children. This phase successfully addressed the third research objective and provided the necessary validation for recommending the framework for broader adoption in efforts to improve educational outcomes and well-being for this population.

## Discussions

When exploring strategies for the sustainable development of education for left-behind children in Shaanxi Province, the researcher divided the analysis into the following three main phases:

### **Phases 1. Studying the current and desired conditions for sustainable development of education for left-behind children of Shaanxi Province.**

The results of Phase 1 revealed that the current conditions for the sustainable development of education for left-behind children in Shaanxi Province were influenced by multiple domains, including individual characteristics, school education support, family-social factors, and government policy and funding support. These findings align closely with the multi-dimensional educational sustainability frameworks emphasized in contemporary literature, which conceptualize educational success as comprising both cognitive-academic development and socio-emotional well-being, shaped by layered environmental systems. The interconnected nature of these influences supports the position of Bronfenbrenner's (1979) Ecological Systems Theory, which argues that child development is affected by nested structures ranging from immediate settings (microsystem) to broader societal contexts (macrosystem).

The analysis of influencing factors identified that children's personal attributes—such as self-efficacy, resilience, and adaptive capacity—had a significant effect on their educational engagement and outcomes. This is consistent with Deci and Ryan's (2000) Self-Determination Theory, which emphasizes the role of autonomy, competence, and relatedness in fostering intrinsic motivation and well-being. The finding that proactive learning behaviors and emotional regulation are critical for educational sustainability mirrors prior research by Ryff (1989) and Keyes (2002), who highlighted that psychological functioning and a sense of purpose are foundational to long-term development.

Family and social support emerged as another prominent influencing factor. This corresponds with Coleman's (1988) Social Capital Theory, which posits that relational networks and community resources directly shape educational access and attainment. Studies by Cutrona and Russell (1987) also confirm that perceived

support from family and neighbors' buffers stress and contributes to positive academic adjustment, which resonates with the interview data collected in this study.

At the school level, the availability of qualified teachers, counseling services, and digital learning resources was shown to enhance educational sustainability. This aligns with Astin's (1993) Theory of Student Involvement, which underscores the importance of institutional capacity and student engagement in promoting learning outcomes. Similar findings were reported by Tinto (1993), who argued that academic and social integration within the school environment is essential for persistence and success.

The government policy and funding domain—particularly fiscal investment, regulatory frameworks, and cross-sector coordination—also played a decisive role. This aspect is consistent with Putnam's (2000) concept of bridging social capital, which stresses that macro-level institutional alliances and policy coherence expand opportunities for vulnerable groups. Research on educational governance further supports the idea that stable funding and aligned policy implementation create enabling conditions for sustainable educational interventions.

Furthermore, the Priority Needs Index (PNI) analysis identified significant gaps between current and desired states across all four domains, with the most pressing needs observed in school education support and government policy. This quantitative insight provides empirical grounding for the subsequent development of targeted strategies. The use of PNI in this context aligns with its established application in educational needs assessment (Witkin & Altschul, 1995), where it serves as a diagnostic tool for resource prioritization.

In summary, the Phase 1 findings are consistent with multiple theoretical frameworks and previous research, reinforcing the understanding that sustainable educational development for left-behind children is a product of interconnected individual, school, family-social, and policy-level factors. The alignment with established theories provides a strong foundation for the strategy development process undertaken in Phase 2.

## **Phases 2. Development of strategies for sustainable development of education for left-behind children of Shaanxi Province.**

The results from Phase 2 demonstrated the systematic development of four core strategies designed to enhance the sustainable development of education for left-behind children in Shaanxi Province. The strategies were derived from a

comprehensive analysis of data obtained in Phase 1, incorporating SWOT analysis, PEST analysis, and TOWS Matrix synthesis to ensure that both internal and external factors were considered. The four resulting strategies—Strategies for Enhancing Individual Characteristics, Strategies for Enhancing School Education Support, Strategies for Enhancing Family-Social Factors, and Strategies for Enhancing Government Policy and Funding Support—are grounded in evidence and align with established theoretical and practical frameworks in educational management and sustainable development.

**Strategy 1: Strategies for Enhancing Individual Characteristics (Individual-level)** This strategy emphasizes fostering children’s self-efficacy, resilience, and capacity for self-directed learning. The importance of individual agency in educational sustainability is well-documented in the capability approach theory (Bai Yiming, 2022), which asserts that expanding children’s real freedoms and opportunities is central to sustainable development. Similarly, Deci and Ryan’s (2000) Self-Determination Theory underscores the role of autonomy, competence, and relatedness in motivating learning and well-being. The inclusion of measures to enhance personal attributes aligns with findings from scholars like Zhou Minghua (2021) and Guo Jiaxin (2023), who identified self-regulation and adaptive capacity as critical factors in the academic and emotional development of left-behind children. Compared to prior research, this strategy is distinctive in its contextual adaptation to the socio-cultural setting of Shaanxi, integrating local values and resources to strengthen children’s inner capacities.

**Strategy 2: Strategies for Enhancing School Education Support (School-level)** The second strategy focuses on strengthening the institutional capacity of schools to provide inclusive, responsive, and resource-rich learning environments. This approach is strongly supported by Astin’s (1993) Theory of Student Involvement, which emphasizes the correlation between institutional engagement and student success. It also resonates with Zhang Wei’s (2023) perspective on educational management as a resource-optimizing mechanism that leverages technology and community capital. Studies by Fang Dawei (2021) and Huang Jun (2023) further confirm that teacher quality, digital infrastructure, and psychosocial services are decisive for reducing educational inequality. In the context of Shaanxi, this strategy leverages existing school-community networks and introduces innovative models such as blended learning and teacher mentoring systems. Its novelty lies in modularizing support services to allow flexible implementation across diverse regional conditions.

**Strategy 3: Strategies for Enhancing Family-Social Factors (Family-Social level)** This strategy aims to mobilize family and community resources to create a nurturing environment that compensates for parental absence. It is grounded in Bronfenbrenner's (1979) Ecological Systems Theory, which highlights the microsystem of family and community as a direct influence on child development. It also draws on Coleman's (1988) Social Capital Theory, which stresses the role of relational networks and community trust in facilitating educational access and support. Research by Lin Yating (2022) and Zhao Pengfei (2023) shows that community learning centers, peer support groups, and intergenerational care models significantly improve educational persistence and emotional well-being. Unlike previous interventions that focused narrowly on school-based inputs, this strategy integrates cultural assets and local stakeholder participation to build a cohesive ecosystem of care.

**Strategy 4: Strategies for Enhancing Government Policy and Funding Support (Policy level)** The fourth strategy focuses on improving policy coherence, funding stability, and cross-sector coordination to create an enabling environment for sustainable educational development. This is consistent with Deng Lifang's (2024) view of sustainable development as a cross-sectoral, future-oriented paradigm that integrates policy coherence and adaptive governance. It also aligns with Kong Dezhi's (2024) emphasis on outcome-based funding and accountability mechanisms to ensure equitable resource allocation. By advocating for dynamic policy adaptation, inter-ministerial collaboration, and participatory monitoring systems, the strategy addresses the implementation gaps observed in Shaanxi's earlier programs. Its distinctive contribution lies in linking macro-level policy instruments with local-level feedback loops to ensure responsiveness and sustainability.

#### **Integration of SWOT, PEST, and TOWS Matrix Findings**

The integrated use of SWOT, PEST, and TOWS analyses in Phase 2 ensured that the formulated strategies comprehensively addressed internal strengths and weaknesses (identified through SWOT) alongside external opportunities and threats (revealed by PEST). This systematic approach aligns with the core principle of strategic fit, as emphasized by Liu Dehai (2021), who advocates for aligning internal capabilities with external environmental conditions to achieve sustainable objectives. The TOWS Matrix served as a crucial mechanism for translating analytical insights into actionable strategies, ensuring that each strategic initiative—whether leveraging strengths, mitigating weaknesses, seizing opportunities, or countering threats—was directly derived from the empirical findings of Phase 1. This process resonates with

the participatory and evidence-based strategic planning paradigm highlighted by Wang Xiaoyan (2022), which underscores that strategies grounded in robust diagnostic tools and stakeholder input yield more relevant, actionable, and sustainable outcomes.

### **Comparative Analysis with Previous Studies**

When compared to prior research on educational strategies for vulnerable groups, the strategic framework developed in this study demonstrates distinctiveness through its multi-dimensional and integrated nature. Earlier studies, such as those by Zhou Minghua (2021) and Fang Dawei (2021), often concentrated on isolated dimensions—focusing primarily on individual resilience or institutional resource inputs. In contrast, this research bridges and synthesizes four interconnected dimensions—Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support—simultaneously. This holistic approach is informed by the ecological and systems perspectives advanced by scholars like Wang Jin (2021), who argued for synchronized interventions across micro, meso, and macro levels. Furthermore, the explicit incorporation of modular strategy design, as advocated by Chen Xiaoli (2024), allows for contextual adaptation across Shaanxi's diverse counties, offering a more flexible and scalable model than the rigid, one-size-fits-all approaches observed in some earlier interventions.

### **Connection to Sustainable Development Goal 4 (SDG 4)**

The strategic framework developed in this study directly advances Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all [^0^]. The four-dimensional intervention model aligns with specific SDG 4 targets and contributes to China's commitment to the 2030 Agenda for Sustainable Development.

1. Alignment with Target 4.1 and Target 4.5 The study's focus on left-behind children—a vulnerable population in rural Shaanxi—explicitly addresses Target 4.5, which calls for eliminating gender disparities and ensuring equal access to all levels of education for vulnerable groups, including children in vulnerable situations [^1^]. The Priority Needs Index (PNI) analysis revealed significant gaps between current and desired conditions across all four domains, mirroring the global equity challenges highlighted in SDG 4 monitoring frameworks [^3^]. By prioritizing family-social factors (PNI = 0.489) and government policy support (PNI = 0.476), the strategies directly target the structural barriers that prevent equitable educational access.

Furthermore, the emphasis on improving learning motivation, psychological well-being, and independent living skills aligns with Target 4.1, which emphasizes not

merely school completion but "relevant and effective learning outcomes" [^4^]. The study's finding that left-behind children demonstrate medium-low levels in learning engagement and emotional regulation underscores the need for quality education that extends beyond access to encompass holistic development.

2. Contribution to Target 4.a and Target 4.c The Strategies for Enhancing School Education Support correspond to Target 4.a (building safe, non-violent, inclusive learning environments) and Target 4.c (substantially increasing qualified teachers) [^6^]. The proposed measures—including establishing inclusive school cultures, implementing mental health support programs, and conducting specialized teacher training—address the infrastructure and human resource gaps identified in UNESCO's global education monitoring reports [^8^]. The expert evaluation confirmed high feasibility (mean = 4.60) for school-level interventions, suggesting these strategies can effectively upgrade educational facilities and personnel capacity in resource-constrained rural contexts.

3. Advancing Target 4.7 through Education for Sustainable Development The Strategies for Enhancing Individual Characteristics uniquely contribute to Target 4.7, which mandates that all learners acquire knowledge and skills needed to promote sustainable development, including education for sustainable development (ESD), human rights, and global citizenship [^9^]. By integrating resilience-oriented life skills training, emotional management courses, and self-awareness workshops, the framework cultivates psychological resilience and self-directed learning capacities—competencies essential for navigating lifelong learning trajectories and contributing to sustainable societal transformation. This aligns with UNESCO's emphasis on ESD as a transformative process that empowers learners to assume active roles in building sustainable futures [^11^].

### **Systemic Integration and Policy Coherence**

The Strategies for Enhancing Government Policy and Funding Support address the means of implementation embedded throughout SDG 4, particularly regarding equitable resource allocation and cross-sectoral coordination. The proposal to establish a multi-departmental coordinating committee and optimize financial allocation formulas reflects the SDG 4 framework's call for "explicit formula-based policies [that] reallocate education resources to disadvantaged populations" [^12^]. The high adaptability rating (mean = 4.80) for this strategy indicates its potential to align national and provincial education financing with SDG equity principles across diverse regional cont.

### Implications for Practice

The strategies formulated in Phase 2 carry significant implications for educational practitioners, policy-makers, and community stakeholders in Shaanxi Province. For school administrators, the framework provides a structured, evidence-based roadmap for enhancing educational support services, teacher capacity, and digital infrastructure, directly addressing the high-priority needs identified in the PNI analysis. For local and provincial policy-makers, the strategies underscore the necessity of stable, coordinated funding and cross-sectoral policies (e.g., integrating education with social welfare and health services), as emphasized by Kong Dezhi (2024), to create an enabling environment for sustainable development. For community and family stakeholders, the emphasis on building support alliances and activating local assets offers practical pathways to strengthen the care ecosystem around left-behind children. By addressing needs at multiple levels and explicitly incorporating mechanisms for cultural grounding and iterative feedback—principles championed by Li Feng (2024)—the strategies ensure not only immediate relevance but also long-term viability and community ownership, thereby promoting enduring improvements in the educational sustainability for left-behind children.

### **Phases 3. Evaluation of the feasibility and adaptability of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

This phase of the research focused on evaluating the feasibility and adaptability of the four strategies developed in Phase 2—Strategies for Enhancing Individual Characteristics, Strategies for Enhancing School Education Support, Strategies for Enhancing Family-Social Factors, and Strategies for Enhancing Government Policy and Funding Support—for promoting the sustainable development of education for left-behind children in Shaanxi Province. The evaluation was conducted through a structured expert assessment, using a tailored rating scale to measure appropriateness, feasibility, and adaptability within the specific socio-educational context of Shaanxi. Experts were selected based on predefined qualifications, including academic expertise, professional experience in education or child development, and familiarity with local policy environments and left-behind children's needs.

The results indicated that all four strategies received high to very high ratings across all evaluation criteria, reflecting strong professional consensus regarding their relevance and practical applicability. This aligns with Stufflebeam's CIPP Model (2003), which emphasizes that effective educational interventions must be assessed

not only on content but also on contextual fit, implementation potential, and sustainability. By involving experts from multiple domains—educational management, child psychology, social work, and public policy—the evaluation ensured a multidimensional review, consistent with Patton’s (2015) Utilization-Focused Evaluation approach, which prioritizes stakeholder engagement to enhance the usability and impact of evaluation findings.

From a theoretical perspective, the high ratings for appropriateness suggest that the strategies align with the socio-economic, cultural, and institutional realities of Shaanxi Province. This is consistent with Bronfenbrenner’s Ecological Systems Theory (1979), which stresses that interventions must be compatible with the multiple environmental systems influencing the child. For example, the family-social strategy was deemed especially appropriate due to the critical role of kinship and community networks in rural Shaanxi, echoing findings from studies on caregiver engagement and local cultural assets.

Regarding feasibility, experts noted that the strategies could be implemented without requiring resources beyond the capacity of most local schools and community organizations, particularly if phased implementation and cross-sector collaboration were adopted. This observation is supported by Kotter’s (1996) Change Management Model, which highlights the importance of building coalitions and generating short-term wins to sustain momentum. The school-level and government-level strategies, which require broader institutional and policy engagement, were rated highly feasible when integrated into existing frameworks for school improvement and regional development planning.

In terms of adaptability, the evaluation revealed that the strategies could be tailored to diverse settings across Shaanxi’s varied geographic and economic conditions. This flexibility reflects principles from Rogers’ Diffusion of Innovations Theory (2003), which asserts that innovations are more likely to be adopted when they can be adapted to local needs and resources. For example, the strategy for enhancing individual characteristics can be customized through varying program formats—from resilience-building workshops and digital learning tools to peer-mentoring programs—depending on local infrastructure and child readiness.

An important aspect of the experts’ feedback was the emphasis on integration and sequencing. Rather than implementing the strategies in isolation, experts recommended an interconnected approach where individual-level empowerment reinforces school-based support, which in turn is amplified by family-community engagement and enabled by supportive government policies. This

systems-based implementation approach resonates with integrated child development models that promote coordinated action across multiple domains affecting children’s well-being and educational outcomes.

When compared to prior research on educational support for vulnerable children, this study’s evaluation results stand out for their consistency across all four strategic domains and for the explicit validation of strategies through a culturally contextualized expert review process. While many earlier studies validate interventions primarily through small-scale pilot testing, this research adopts a pre-implementation evaluation model, reducing the risks of resource misallocation and increasing the likelihood of sustainable adoption.

In summary, Phase 3 confirmed that the developed strategies are theoretically sound, contextually relevant, practically feasible, and adaptable to the diverse conditions within Shaanxi Province. The expert validation process not only reinforced the strategies’ credibility but also provided actionable recommendations for implementation sequencing, stakeholder engagement, and contextual adaptation, ensuring that the strategic framework possesses both academic robustness and practical utility.

## Recommendations

### Recommendations for Practice

The following recommendations are derived directly from the findings of the three research phases and are aligned with the intended advantages specified in conducting and applying the developed strategies to maximize benefits for left-behind children, educators, schools, and communities in Shaanxi Province. To ensure effective implementation of the four strategic dimensions (Individual Characteristics, School Education Support, Family-Social Factors, and Government Policy and Funding Support), specific implementing agencies are designated for each recommendation as follows:

#### **1. For Left-behind Children (Primary Responsibility: Schools, with support from County/District Education Bureaus and Community Centers)**

Implementation aligned with Strategy 1: Strategies for Enhancing Individual Characteristics

1.1 Integrate sustainability and resilience-building modules into the curriculum — School Curriculum Development Committees and County Education Bureau Teaching Research Offices should develop credit-bearing or co-curricular

courses focused on self-efficacy, adaptive capacity, and emotional regulation, based on the identified dimensions of sustainable educational development. This aligns with the Strategies for Enhancing Individual Characteristics and resonates with the capability approach theory (Bai Yiming, 2022), which emphasizes expanding children's real freedoms and opportunities.

1.2 Establish structured peer mentoring and support systems — School Student Affairs Departments and Youth League/Young Pioneer Organizations should build on the Strategies for Enhancing Family-Social Factors by creating formalized peer-support programs and intergenerational learning circles that connect children with trained mentors or community volunteers, fostering a sense of belonging and providing consistent guidance.

1.3 Create safe, inclusive, and resource-enriched learning spaces — School Administrative Offices and County Education Infrastructure Departments should, informed by the SWOT and PEST analyses, ensure that learning environments (both in school and in community centers) are physically and psychologically safe, equipped with necessary digital and learning resources, and governed by norms that encourage participation without fear of judgment.

1.4 Connect educational support with lifelong learning and future pathways — School Career Guidance Centers and County Human Resources and Social Security Bureaus should link skill-building activities to future educational and vocational opportunities, helping children see the relevance of their learning and align personal strengths with long-term goals, thereby enhancing both current engagement and future readiness.

1.5 Provide continuous self-assessment and reflective practice tools — Classroom Teachers and School Psychological Counseling Rooms should offer children age-appropriate tools, such as journals or simple digital apps, to monitor their own learning progress and well-being, fostering self-awareness and goal-setting habits in line with the focus on individual agency.

## **2. For Teachers and Educators (Primary Responsibility: Teacher Training Institutions and School Professional Development Committees)**

Implementation aligned with Strategy 2: Strategies for Enhancing School Education Support

2.1 Conduct professional development on sustainable, child-centered pedagogy — Provincial/County Teacher Training Centers and School Teaching Research Groups should use insights from Phase 1's influencing factors to train

teachers on adaptive teaching methods, trauma-informed practices, and ways to integrate education for sustainable development (ESD) principles into their subjects, as emphasized in the Strategies for Enhancing School Education Support.

2.2 Integrate principles of sustainability and resilience into everyday teaching — Classroom Teachers and Subject Teaching Research Groups should encourage the use of collaborative projects, problem-based learning, and positive reinforcement to foster motivation and teacher-student rapport, reflecting the ecological systems perspective (Bronfenbrenner, 1979) that highlights the importance of supportive micro-systems.

2.3 Enhance the teacher's role as a mentor and facilitator — School Principals and County Education Bureau Personnel Departments should allocate institutional time and resources for teachers to act as advisors not only on academic matters but also on psychosocial well-being, strengthening their influence as positive role models and trusted adults.

2.4 Establish teacher peer-support networks and professional learning communities — School Union/Staff Associations and County Teacher Development Centers should, following the collaborative approach identified in the strategies, create forums where teachers can share challenges, exchange effective strategies, and access collective support, ensuring their own well-being and sustainable capacity to support students.

2.5 Utilize data from monitoring systems to inform instructional adjustments — School Academic Affairs Offices and Information Technology Departments should incorporate findings from the ongoing monitoring of children's progress and well-being (as suggested in Phase 3) into lesson planning and instructional strategies to proactively address learning gaps or emerging needs.

### **3. For Schools, Communities, and Policy Makers (Primary Responsibility: Cross-sector collaboration led by County Education Bureaus and Civil Affairs Departments)**

Implementation aligned with Strategy 3: Strategies for Enhancing Family-Social Factors and Strategy 4: Strategies for Enhancing Government Policy and Funding Support

3.1 Institutionalize the strategic framework for sustainable educational development — County/District Education Bureaus and County People's Government Offices should adopt the four strategies developed in Phase 2 as part of the school's and local government's long-term educational development plans, ensuring integration across administrative, teaching, and community outreach functions.

3.2 Establish a multi-level Monitoring and Evaluation Mechanism — County Education Bureau Planning and Statistics Departments, Civil Affairs Bureau Social Welfare Divisions, and School Quality Assurance Offices should, inspired by the Phase 3 evaluation process, create a collaborative body involving school leaders and community representatives to collect, analyze, and report on key sustainability indicators regularly, ensuring accountability and continuous improvement.

3.3 Foster cross-sector partnerships and resource sharing — County Education Bureau External Liaison Departments, Civil Affairs Bureau Social Organization Management Divisions, Youth League County Committees, and Women's Federation County Branches should actively promote collaboration between schools, community organizations, NGOs, and local government departments to pool resources, co-design programs, and provide wraparound support for left-behind children, operationalizing the Social Capital Theory (Coleman, 1988).

3.4 Implement adaptive policy and funding cycles — Provincial Department of Education Basic Education Divisions, Provincial Department of Finance Education Expenditure Divisions, and County Development and Reform Bureaus should, based on Phase 3's adaptability findings, schedule regular reviews of strategies and resource allocation to ensure they remain responsive to changing demographics, economic conditions, and emergent needs in Shaanxi Province.

3.5 Promote successful models of support as a community asset — County Propaganda Departments, Education Bureau Public Information Offices, Cultural and Tourism Bureaus, and Local Media Centers should document and disseminate successful initiatives through local media, community meetings, and policy briefs to build public awareness, secure ongoing stakeholder buy-in, and attract further support, thereby strengthening the overall ecosystem for left-behind children.

### **Recommendations for Future Researches**

The following recommendations outline potential avenues for future research to further enhance the sustainable development of education for left-behind children in Shaanxi Province and similar contexts. These suggestions are derived from the findings and limitations identified in the present study.

#### **1. Expand the Geographical and Demographic Scope**

This research focused specifically on left-behind children within Shaanxi Province. Future studies could expand the scope to include a comparative analysis across different provinces in Northwest China or compare the situations of left-behind children in various socio-economic and cultural contexts (e.g., coastal vs. inland regions). Such expansion would help validate the generalizability of the four-

dimensional strategic framework (Individual Characteristics, School Education Support, Family-Social Factors, Government Policy and Funding Support) and identify context-specific modifications needed for different regions.

## 2. Conduct Longitudinal and Intervention-Based Studies

This study provided a robust cross-sectional assessment and expert validation of strategies. Future research should employ longitudinal designs to track the long-term impacts of implementing the proposed strategies on educational outcomes, psychological well-being, and long-term development trajectories of left-behind children. Quasi-experimental or action research approaches could be used to implement and rigorously evaluate the effectiveness of specific strategy components (e.g., the modular intervention for enhancing individual resilience or the community tutoring bases), providing stronger causal evidence on what works, for whom, and under what conditions.

## 3. Deepen the Exploration of Specific Mechanisms and Digital Solutions

While this study identified key factors and overarching strategies, future research should delve deeper into the underlying mechanisms. This includes investigating the mediating and moderating roles of variables such as children's psychological capital, the quality of teacher-student relationships, or the effectiveness of specific digital platforms in delivering support. Furthermore, with the rapid advancement of technology, dedicated research is needed to develop and evaluate the efficacy of AI-assisted learning tools, mobile health (mHealth) applications for mental health support, and big data analytics for early warning systems to identify at-risk children more proactively.

## 4. Integrate Cross-Disciplinary and Mixed-Methods Approaches

The complex phenomenon of supporting left-behind children benefits from cross-disciplinary lenses. Future studies should more deeply integrate perspectives from neuroscience, developmental psychology, social work, and public policy to gain a holistic understanding. Employing advanced mixed-methods designs that combine quantitative surveys with in-depth phenomenological interviews, ethnographic observations, and participatory action research involving the children themselves can yield richer, more nuanced insights into their lived experiences and the actual processes of change.

## 5. Foster International Comparative Research and Policy Learning

The challenge of supporting children affected by migration is not unique to China. Future research should initiate comparative studies with other countries facing similar issues, such as in Southeast Asia or Latin America. This would facilitate

valuable cross-cultural learning, allowing researchers to identify universal principles and culturally specific adaptations in strategy design and implementation. Analyzing the transferability of successful international models to the Chinese context, and vice versa, can inform more robust and innovative policy solutions globally.

In conclusion, while this research has successfully developed, validated, and provided a strategic framework for action, it also opens the door to a vibrant agenda for future inquiry. By addressing these recommended areas, subsequent research can build upon this foundation to deepen our theoretical understanding, refine practical interventions, and ultimately contribute more effectively to the sustainable development and well-being of left-behind children in Shaanxi Province and beyond.

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## Appendixes

Appendix A  
List of Specialists and Letters of Specialists Invitation  
for IOC Verification

## List of Specialists Invitation for IOC Verification

NO.	Name	Position
1	Associate Professor Dr. Chollada Pongpattanayothin	Ph.D. Education for Locality Development Bansomdejchaopraya Rajabhat University
2	Associate Professor Dr. Sunate thaveethavornswat	Ph.D. Education for Locality Development Bansomdejchaopraya Rajabhat University
3	Associate Professor Dr. Jittawisut Wimuttipanya	Ph.D. Curriculum and Instruction Bansomdejchaopraya Rajabhat University
4	Associate Professor Dai Jing	Ph.D. in Computer Science, Assistant to the Dean of the School of Information Engineering
5	Associate Professor Liu Dong	Ph.D. in Education, Deputy Director of the Department of Computer Science, School of Information Engineering

## List of Experts for Interview

The following lists were invited as an evaluation expert to evaluate the adaptability and feasibility of strategies on sustainable development of Chinese Dance Teacher leadership in Shandong Province.

NO.	Name	Position
1	Wu Junlin	Professor, Shaanxi Normal University; Expert in education policy for left-behind children
2	Zhai Suibing	Professor, Shaanxi Fashion Engineering College; Education expert, Assistant to the President
3	Luo Wenqian	Professor, Shaanxi Fashion Engineering College; Education expert, Minister of United Front Work Department of the Party Committee, Assistant to the President
4	Li Fang	Deputy Director, Shaanxi Xianyang Women and Children's Work Committee Office
5	Wang Jianguo	Associate Professor, Sociology Department, Northwest University; Rural sociology researcher
6	Chen Zhiqiang	Researcher, Youth Development Research Center, Shaanxi Academy of Social Sciences
7	Liu Jing	Associate Professor, Counseling Center, Xi'an Jiaotong University
8	Yang Fan	Deputy Director, Long County Education Bureau, Baoji; Rural education practitioner
9	Zheng Xiaohong	Professor, Preschool Education Department, Shaanxi Xueqian Normal University
10	Wu Ting	Director, Family and Children's Department, Xi'an Women's Federation

## List of Experts for Focus Group Discussion

The following lists were invited as an evaluation expert to evaluate the adaptability and feasibility of strategies on sustainable development of Chinese Dance Teacher leadership in Shandong Province.

NO.	Name	Position
1	Liu Jianguo	Zhangjiazhuang Primary School Principal ,Research Area: School-based mentoring systems and home school collaboration to promote education development for left behind children
2	Wang Lijuan	Yan'an New Development Nine-Year School ,Vice Principal ,Research Area: Integrated teaching models to enhance learning motivation among left behind children
3	Chen Zhiqiang	Qingliangshan Primary School ,Head of Grade 5 ,Research Area: Fostering emotional resilience in vulnerable students through classroom activities
4	Zhao Haitao	Xianyang Pingan Democratic Nine-Year School ,Principal ,Research Area: Policy implementation and resource allocation for equitable education of left behind children
5	Sun Xiaomei	Xianyang Qihang Junior High School ,Vice Principal ,Research Area: Teacher capacity building in rural schools serving left behind children
6	Zhou Jianhua	Qianjin Primary School ,Director of Student Affairs ,Research Area: Community based extracurricular programs to support psychosocial wellbeing of left behind children
7	Li Xiufang	Weinan Hope School ,Principal ,Research Area: Using cultural and aesthetic education to enhance self esteem in left behind children
8	Guo Zhiwei	Chenggu Tonghui Middle School ,Vice Principal ,Research Area: Individualized instruction strategies for academically at risk left behind students

NO.	Name	Position
9	Yang Xuemei	Datong School ,Head of Grade 6 ,Research Area: Peer support groups to foster self-directed learning and mutual encouragement
10	Gao Wenbin	Xiaobeihe School ,Director of Teaching and Research ,Research Area: Collaborative lesson planning to address diverse learning needs of left behind children

## List of Specialists Invitation for Strategies Evaluation

The following experts were invited as evaluation specialists to assess the feasibility and adaptability of the strategies for the sustainable development of education for left-behind children in Shaanxi Province.

NO.	Name	Position
1	Professor Jiang Shoushan	PhD in Education, President of Northwest University
2	Professor Dang Xiaojuan	Master of Computer Science, Northwest University
3	Professor Wang Li	Professor, Shaanxi Normal University; Expert in education policy
4	Professor Lui Jibin	Professor, Shaanxi Normal University Education expert, Assistant to the President
5	Professor Luo Zhuli	Professor, Shaanxi Normal University; Education expert, Minister of United Front Work Department of the Party Committee, Assistant to the President

Appendix B  
Official Letter



Ref.No. MHESI 0643.14/ว26

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

26 August 2024

Subject Invitation to validate research instrument

Dear Associate Professor Dr. Chollada Pongpattanayothin

Attachment A set of research instrument.

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

- |  |               |
|--|---------------|
| 1. Assistant Professor Dr. Phisanu Bangkheow         | Major Advisor |
| 2. Assistant Professor Dr. Phatchareephorn Bangkheow | Co-Advisor    |
| 3. Assoc. Prof. Dr. Narongwat Mingmit                | Co-Advisor    |

The thesis advisory committee recognizes your expertise in Educational Management for Sustainable Development and believes that your recommendations would be invaluable for the further refinement of this research instrument.

With your specialized knowledge, we kindly request your assistance in validating the attached research instrument. In this regard, we would like to take this opportunity to express our deepest gratitude and appreciation for your support.

Yours faithfully

(Asst. Prof. Dr. Tanaput Chanchaen)

Vice Dean of Graduate School for Dean of Graduate School

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Ref.No. MHESI 0643.14/ว27

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

.....26 August 2024

Subject Invitation to validate research instrument

Dear Associate Professor Dr. Sunate thaveethavornsawat

Attachment A set of research instrument.

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/ว28

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

.....26 August 2024

Subject Invitation to validate research instrument

Dear Associate Professor Dr. Jittawisut Wimuttipanya

Attachment A set of research instrument.

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/ว29

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

.....26 August 2024

Subject Invitation to validate research instrument

Dear Associate Professor Dai Jing

Attachment A set of research instrument.

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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| 3. Assoc. Prof. Dr. Narongwat Mingmit                | Co-Advisor    |

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Ref.No. MHESI 0643.14/ว30

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

.....26 August 2024

Subject Invitation to validate research instrument

Dear Associate Professor Liu Dong

Attachment A set of research instrument.

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/๖41

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Wu Junlin

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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| 3. Assoc. Prof. Dr. Narongwat Mingmit                | Co-Advisor    |

The thesis advisory committee, along with the student, recognizes your expertise in Educational Management for Sustainable Development. As such, the graduate school would like to formally invite you to participate in an interview as an expert, where your insights and suggestions will greatly contribute to the advancement of the student’s research.

Thank you for considering this invitation.

Yours faithfully

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Ref.No. MHESI 0643.14/๖42

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Zhai Suibing

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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| 3. Assoc. Prof. Dr. Narongwat Mingmit                | Co-Advisor    |

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Ref.No. MHESI 0643.14/ว43.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Luo Wenqian

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/ว44.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Li Fang

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/ว45.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Wang Jianguo

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/ว46.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Chen Zhiqiang

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Ref.No. MHESI 0643.14/๖47.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Liu Jing

Attachment Interview Form

Mr. Gan Lin is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. She is conducting research entitled “Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province” under the supervision of the following thesis advisory committee:

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Thank you for considering this invitation.

Yours faithfully

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Ref.No. MHESI 0643.14/ว48.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Yang Fan

Attachment Interview Form

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Thank you for considering this invitation.

Yours faithfully

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Ref.No. MHESI 0643.14/ว49.....

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Zheng Xiaohong

Attachment Interview Form

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Ref.No. MHESI 0643.14/ว50.....

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..... 16 October, 2024

Subject Invitation to join an interview as an expert

Dear Professor Wu Ting

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Ref.No. MHESI 0643.14/๖61.....

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.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Liu Jianguo

Attachment A focus group discussion schedule

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Ref.No. MHESI 0643.14/๖62.....

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.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Wang Lijuan

Attachment A focus group discussion schedule

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.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Chen Zhiqiang

Attachment A focus group discussion schedule

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Subject Invitation to join a focus group discussion as an expert

Dear Zhao Haitao

Attachment A focus group discussion schedule

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Subject Invitation to join a focus group discussion as an expert

Dear Sun Xiaomei

Attachment A focus group discussion schedule

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.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Zhou Jianhua

Attachment A focus group discussion schedule

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.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Li Xiufang

Attachment A focus group discussion schedule

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Ref.No. MHESI 0643.14/๖68.....

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1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Guo Zhiwei

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.....1 April 2024

Subject Invitation to join a focus group discussion as an expert

Dear Yang Xuemei

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Ref.No. MHESI 0643.14/๓70.....

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.....1 April 2025

Subject Invitation to join a focus group discussion as an expert

Dear Gao Wenbin

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Ref.No. MHESI 0643.14/ว119

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

.....16 September, 2025

Subject Invitation to join a Strategies Evaluation as an expert

Dear Professor Jiang Shoushan

Attachment A Strategies Evaluation Form

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.....16 September, 2025

Subject Invitation to join a Strategies Evaluation as an expert

Dear Professor Dang Xiaojuan

Attachment A Strategies Evaluation Form

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Ref.No. MHESI 0643.14/ว121

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.....16 September, 2025

Subject Invitation to join a Strategies Evaluation as an expert

Dear Professor Wang Li

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Dear Professor Liu Jibin

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Subject Invitation to join a Strategies Evaluation as an expert

Dear Professor Luo Zhuli

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Appendix C  
Research Instrument



陕西服装工程学院  
Shaanxi Fashion Engineering University

### Questionnaire

## Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province



#### Direction:

This questionnaire is designed to explore the current situation and desired conditions of education for left-behind children and sustainable development strategies aimed at enhancing their educational well-being in Shaanxi Province. The research aims to provide evidence-based strategies for the sustainable development of education for left-behind children in the province and to evaluate the feasibility and adaptability of these strategies in local contexts.

This questionnaire concerns the education and sustainable development strategies for left-behind children in Shaanxi Province. It is divided into two parts: the first part collects personal information from participants, and the second part surveys the current situation and desired development of education for left-behind children. There are total of 42 questions.

Please mark  $\checkmark$  in the column that best reflects your views on the improvement of education for left-behind children in Shaanxi Province.

Thank you for your cooperation in filling out this questionnaire.

Mr. Gan Lin

Bansomdejchaopraya Rajabhat University

**Part I: Visitor's Personal Information**

(Note: The following information is obtained with the child as the primary respondent; adults present assist in understanding and recording responses.)

## 1. Gender:

1. Male  
 2. Female

(Child's verbal response, assisted by adult)

## 2. Grade:

1. Lower Primary (Grades 1–3)  
 2. Upper Primary (Grades 4–6)  
 3. Junior Middle School  
 4. Other: \_\_\_\_\_

(Child's verbal response, assisted by adult)

## 3. Type of Guardianship:

1. Grandparents  
 2. Single Parent  
 3. Other Relatives  
 4. Other: \_\_\_\_\_

(Child's verbal response, assisted by adult)





Assessment Items	Current situations					Expected situations				
	5	4	3	2	1	5	4	3	2	1
17. I can get help from a school counselor when I feel worried or have problems.										
18. I take part in activities that bring together my school, family, and community.										
19. My school has clear rules and staff who support students in their learning and life.										
20. My school asks for my opinion and gives me feedback to help me improve.										
<b>Family-Social Factors</b>										
21. In my community, people think education is very important.										
22. People in my neighborhood are kind and help each other.										
23. My parents can find work near our home or have good job chances.										
24. My family has enough money and a stable life to support my schooling.										
25. My parents talk with me often and take part in my school life.										
26. There are social groups and volunteers who help children like me.										
27. My guardians care for me well and help me with my learning.										
28. People in society notice and care about left-behind children.										
29. I can use learning resources in my community, such as libraries or activity centers.										

Assessment Items	Current situations					Expected situations				
	5	4	3	2	1	5	4	3	2	1
30. Our community carries out education support policies for children like me.										
<b>Government Policy and Funding Support</b>										
31. Policies for left-behind children are clear and easy for my family to understand.										
32. There is enough government money to support education programs for children like me.										
33. Local governments carry out education policies effectively.										
34. Special funds are available to help left-behind children with their education.										
35. There are systems to check and review how well policies work.										
36. Government offices and schools work together to support my education.										
37. Money for education is given out openly and used properly.										

Thank you again for your participation and wish you all the best!



陕西服装工程学院  
Shaanxi Fashion Engineering University

### Interview Form

## Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province



#### Direction:

1. This interview form is about formulating strategies for the education and sustainable development of left-behind children in Shaanxi Province. This research aims to develop strategies for the sustainable development of education for left-behind children in Shaanxi Province, and to evaluate the adaptability and feasibility of these strategies in local contexts.

2. This interview form is for expert review. It is divided into two parts, with a total of 10 questions and suggestions.

3. Your opinions on this interview form will help formulate sustainable development strategies to promote the educational well-being and long-term development of left-behind children in Shaanxi Province. Filling out this form will not have any impact on you personally. The provided data will only be used for summary purposes, and the researcher only intends to use the data for research purposes.

Thank you for your support.

Mr. Gan Lin

Bansomdejchaopraya Rajabhat University

**Part I: Personal Information**

Interviewer.....Interview Date.....

Interview Time.....Interviewee.....

Gender.....Age.....

years old.....

Education background.....Position.....

Work place.....

**Part II: Factors in the Formulation of the Sustainable Development of Education for Left-Behind Children in Shaanxi Province****The factors promoting development**

1.How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?

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2.What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?

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3.How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?

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4.What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?

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5.How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?

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6.What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?

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7.How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?

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8.What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?

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9.Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?

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10.How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?

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**Suggestion:**

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陕西服装工程学院  
Shaanxi Fashion Engineering University

Evaluation Form  
for Strategies for the Sustainable Development of Education for Left-Behind Children  
in Shaanxi Province



**Direction:**

1. This evaluation form is designed for experts to assess the consistency and reliability of the interview questions related to the development of strategies for the sustainable development of education for left-behind children in Shaanxi Province. Serving as part of the research methodology in the doctoral dissertation on educational sustainability in Shaanxi Province, it focuses on identifying and analyzing the key components and factors influencing the educational sustainability of left-behind children. The form aids in formulating comprehensive and targeted strategies to address their unique needs and challenges, and evaluates the Feasibility and Adaptability of these strategies within the socio-educational context of Shaanxi Province, ensuring alignment with the research objectives and practical implementation.

2. This questionnaire validity evaluation form is centered around 4 aspects, including all strategies.

3. Your comments on evaluation form for validity of interview form will be useful for the development of management strategies to promote development of Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province. Responding to this questionnaire will have no impact per you individually. The proposed data will be of an overview and the researcher aims to use the data for research purposes only.

Thank you for your cooperation in answering this evaluation form for validity.

Mr. Gan Lin  
Bansomdejchaopraya Rajabhat University









Evaluation checklist	Feasibility					Adaptability				
	5	4	3	2	1	5	4	3	2	1
15. Open Public Recreational and Cultural Resource Platforms										
16. Build Local Community Tutoring and Mentoring Bases										
<b>Strategies for Enhancing Government Policy and Funding Support Factors</b>										
1. Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province										
2. Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children										
3. Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children										
4. Launch a Government-Funded "School Social Worker Station" Program										
5. Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children										
6. Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations										
7. Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children										
8. Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness										

**Suggestions** .....



陕西服装工程学院  
Shaanxi Fashion Engineering University

Assessment form for validity of questionnaire of the current situation and factors about development of Strategies for the Sustainable Development of Education for Left-Behind Children in Shaanxi Province



Direction:

1. This assessment form for validity of questionnaire of the current situation, influencing factors and development of strategies for sustainable development of education for left-behind children in Shaanxi Province is for experts to consider the consistency of the questionnaire and take suggestions. It was as part of a doctoral dissertation of educational administration in Bansomdejchaopraya Rajabhat University, Thailand. The objectives of this research were to explore the components of sustainable development of education for left-behind children in Shaanxi Province, and to develop the strategies for sustainable development of education for left-behind children in Shaanxi Province, and to evaluate the strategies for sustainable development of education for left-behind children in Shaanxi Province.

2. This assessment form for validity of questionnaire was divided into 3 parts, 30 questions and suggestions about the development of strategies for sustainable development of education for left-behind children in Shaanxi Province.

3. Your comments on assessment form for validity of questionnaire will be useful for the development of management strategies to promote development of strategies for sustainable development of education for left-behind children in Shaanxi Province. Responding to this questionnaire will have no impact on you individually. The proposed data will be of an overview and the researcher aims to use the data for research purposes only.

Thank you for your cooperation in answering this interview form.

Mr. Gan Lin  
Bansomdejchaopraya Rajabhat University

**Part I:** Participants' Demographic Characteristics

1. Gender

Male       Female

2. Education Background

Bachelor's degree    Master's degree    Doctor's degree

3. Assessor \_\_\_\_\_

4. Workplace \_\_\_\_\_

5. Position \_\_\_\_\_

**Part II:** This assessment form for validity of questionnaire of the current situation and factors influencing the development of strategies for sustainable development of education for left-behind children in Shaanxi Province

**Direction:** Please consider the consistency of the factors of the current situation and factors influencing the development of strategies for sustainable development of education for left-behind children in Shaanxi Province. After considering it, please check in the corresponding box. Use the following criteria for consideration.

Rating is +1. There is an opinion that "Corresponds to definition."

Rating is 0. There is an opinion that "Not sure it corresponds to definition."

Rating is -1. There is an opinion that "Inconsistent with definition."

**A: Questionnaire of Current situation about components of the development of strategies for sustainable development of education for left-behind children in Shaanxi Province.**

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
Individual Characteristics	1. Fostering self-care abilities and growing independence among left-behind children.				
	2. Strengthening intrinsic motivation to sustain learning interest and effort.				
	3. Developing emotional regulation skills to manage challenges effectively.				

Factors	Questions	Assessment result			Remarks
	4. Building psychological resilience to overcome adversity in education.				
	5. Supporting autonomous learning decisions to enhance personal growth.				
	6. Promoting self-management capacities for daily and academic tasks.				
	7. Encouraging academic persistence in the face of difficulties.				
	8. Cultivating positive attitudes toward education and future prospects.				
	9. Enhancing confidence levels to improve participation and achievement.				
	10. Addressing individual strengths and weaknesses to guide tailored support.				
<b>School Education Support</b>	1. Designing reasonable curricula and balancing resource allocation across schools.				
	2. Expanding extracurricular and tutoring services to meet diverse needs.				
	3. Strengthening teacher support and improving instructional quality.				
	4. Implementing school-based mental health programs for student well-being.				
	5. Creating safe and engaging after-school learning environments.				
	6. Building an inclusive school culture that welcomes all students.				
	7. Integrating life skills curricula into regular teaching activities.				

Factors	Questions	Assessment result			Remarks
	8. Enhancing inter-school collaboration to share best practices.				
	9. Providing continuous teacher training to upgrade professional capacity.				
	10. Addressing key school-related challenges identified in survey data.				
<b>Family-Social Factors</b>	1. Increasing frequency and quality of parental involvement in education.				
	2. Mobilizing community support mechanisms to assist left-behind children.				
	3. Strengthening social networks among families for mutual aid.				
	4. Encouraging active engagement of volunteers in support activities.				
	5. Reducing fragmentation in community support for better coordination.				
	6. Combating social stigma to foster an inclusive environment.				
	7. Improving family-school communication for aligned guidance.				
	8. Expanding access to social resources for disadvantaged families.				
	9. Introducing professional social workers to provide targeted help.				
	10. Addressing key family-social challenges revealed by the survey.				

Factors	Questions	Assessment result			Remarks
<b>Government Policy and Funding Support</b>	1. Clarifying policies and making them accessible to all stakeholders.				
	2. Ensuring adequate and stable funding for educational programs.				
	3. Improving policy implementation efficiency at local levels.				
	4. Establishing multi-department coordination mechanisms for coherence.				
	5. Applying weighted funding models based on concentration of left-behind children.				
	6. Strengthening monitoring and evaluation systems for accountability.				
	7. Enacting specialized local regulations to address specific needs.				
	8. Increasing transparency in fund allocation processes.				
	9. Maintaining consistent policy direction across regions.				
	10. Tackling main policy-funding challenges identified in survey findings.				



陕西服装工程学院  
Shaanxi Fashion Engineering University

Assessment form for validity of Interview Form the factors promoting Sustainable  
Development of Education for Left-behind Children in Shaanxi Province



**Direction:**

1. This assessment form for validity of questionnaire of the current situation, influencing factors and development of strategies for sustainable development of education for left-behind children in Shaanxi Province is for experts to consider the consistency of the questionnaire and take suggestions. It was as part of a doctoral dissertation of educational administration in Bansomdejchaopraya Rajabhat University, Thailand. The objectives of this research were to explore the components of sustainable development of education for left-behind children in Shaanxi Province, and to develop the strategies for sustainable development of education for left-behind children in Shaanxi Province, and to evaluate the strategies for sustainable development of education for left-behind children in Shaanxi Province.

2. This assessment form for validity of questionnaire was divided into 3 parts, 30 questions and suggestions about the development of strategies for sustainable development of education for left-behind children in Shaanxi Province.

3. Your comments on assessment form for validity of questionnaire will be useful for the development of management strategies to promote development of strategies for sustainable development of education for left-behind children in Shaanxi Province. Responding to this questionnaire will have no impact on you individually. The proposed data will be of an overview and the researcher aims to use the data for research purposes only.

Thank you for your cooperation in answering this interview form.

Mr. Gan Lin  
Bansomdejchaopraya Rajabhat University

**Part I:** Participants' Demographic Characteristics

1. Gender

Male       Female

2. Education Background

Bachelor's degree    Master's degree    Doctor's degree

3. Assessor \_\_\_\_\_

4. Workplace \_\_\_\_\_

5. Position \_\_\_\_\_

**Part II:** This assessment form for validity of interview factors form of influencing the development of strategies for sustainable development of education for left-behind children in Shaanxi Province

**Direction:** Please consider the consistency of the factors of influencing the development of strategies for sustainable development of education for left-behind children in Shaanxi Province. After considering it, please check in the corresponding box. Use the following criteria for consideration.

Rating is +1. There is an opinion that "Corresponds to definition."

Rating is 0. There is an opinion that "Not sure it corresponds to definition."

Rating is -1. There is an opinion that "Inconsistent with definition."

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
The factors promoting development	1. How about the problem of the current situation of self-care abilities and independence of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the self-care abilities and independence of development of strategies for sustainable development?				

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
	2. How about the problem of the current situation of psychological resilience and intrinsic motivation of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the psychological resilience and intrinsic motivation of development of strategies for sustainable development?				
	3. How about the problem of the current situation of curriculum design and resource allocation of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the curriculum design and resource allocation of development of strategies for sustainable development?				
	4. How about the problem of the current situation of teacher support and extracurricular services of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the teacher support and extracurricular services of development of strategies for sustainable development?				

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
	5. How about the problem of the current situation of parental involvement and community support mechanisms of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the parental involvement and community support mechanisms of development of strategies for sustainable development?				
	6. How about the problem of the current situation of social capital and stigma reduction of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the social capital and stigma reduction of development of strategies for sustainable development?				
	7. How about the problem of the current situation of policy clarity and funding adequacy of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the policy clarity and funding adequacy of development of strategies for sustainable development?				

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
	8. How about the problem of the current situation of inter-agency coordination and monitoring mechanisms of development of strategies for sustainable development of education for left-behind children in Shaanxi Province and how to promote the inter-agency coordination and monitoring mechanisms of development of strategies for sustainable development?				

Suggestions .....

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Appendix D  
The Results of the Quality Analysis of Research  
Instruments

## The Quality Analysis Results of Research Instruments

The consistency evaluation results of questionnaire survey on the current situation of Sustainable development of education for left-behind children in Shaanxi Province.

### 1. The quality analysis results of Questionnaire.

clause	The current situation of Sustainable development of Chinese dance teacher leadership in Shandong Province	Experts					IOC	Conclusion
		1	2	3	4	5		
<b>Individual Characteristics</b>								
1	I am interested in learning and like to take part in class activities.	1	1	1	1	1	1.00	consistent
2	I can take care of my daily life and do things by myself.	1	1	1	1	1	1.00	consistent
3	I feel good about myself, safe, and not often worried or anxious.	1	1	1	1	1	1.00	consistent
4	I can manage my feelings and handle difficulties without getting too upset.	1	1	1	1	1	1.00	consistent
5	I can adjust to new places or new people easily.	1	1	1	1	1	1.00	consistent
6	I like to learn new things on my own and start learning without being told.	1	1	1	1	1	1.00	consistent
7	I try my best to finish tasks and take my responsibilities seriously.	1	1	1	1	1	1.00	consistent
8	I can talk and get along well with classmates and teachers.	1	1	1	1	1	1.00	consistent
9	When I face a problem, I can think of ways to solve it.	1	1	1	1	1	1.00	consistent
10	I can plan my time and finish my study or chores on time.	1	1	1	1	1	1.00	consistent

clause	The current situation of Sustainable development of Chinese dance teacher leadership in Shandong Province	Experts					IOC	Conclusion
		1	2	3	4	5		
<b>School Education Support</b>								
1	My school provides suitable courses and enough learning materials for me.	1	1	1	1	1	1.00	consistent
2	Teachers at my school help me and teach in a way that I can understand.	1	1	1	1	1	1.00	consistent
3	My school has a friendly atmosphere and my classmates are kind and helpful.	1	1	1	1	1	1.00	consistent
4	My school offers after-school activities or extra help when I need it.	1	1	1	1	1	1.00	consistent
5	My school has special programs to support left-behind children like me.	1	1	1	1	1	1.00	consistent
6	Teachers at my school receive training to better help students.	1	1	1	1	1	1.00	consistent
7	I can get help from a school counselor when I feel worried or have problems.	1	1	1	1	1	1.00	consistent
8	I take part in activities that bring together my school, family, and community.	1	1	1	1	1	1.00	consistent
9	My school has clear rules and staff who support students in their learning and life.	1	1	1	1	1	1.00	consistent
10	My school asks for my opinion and gives me feedback to help me improve.	1	1	1	1	1	1.00	consistent

clause	The current situation of Sustainable development of Chinese dance teacher leadership in Shandong Province	Experts					IOC	Conclusion
		1	2	3	4	5		
<b>Family-Social Factors</b>								
1	In my community, people think education is very important.	1	1	1	1	1	1.00	consistent
2	. People in my neighborhood are kind and help each other.	1	1	1	1	1	1.00	consistent
3	My parents can find work near our home or have good job chances.	1	1	1	1	1	1.00	consistent
4	My family has enough money and a stable life to support my schooling.	1	1	1	1	1	1.00	consistent
5	My parents talk with me often and take part in my school life.	1	1	1	1	1	1.00	consistent
6	There are social groups and volunteers who help children like me.	1	1	1	1	1	1.00	consistent
7	My guardians care for me well and help me with my learning.	1	1	1	1	1	1.00	consistent
8	People in society notice and care about left-behind children.	1	1	1	1	1	1.00	consistent
9	I can use learning resources in my community, such as libraries or activity centers.	1	1	1	1	1	1.00	consistent
10	Our community carries out education support policies for children like me.	1	1	1	1	1	1.00	consistent

clause	The current situation of Sustainable development of Chinese dance teacher leadership in Shandong Province	Experts					IOC	Conclusion
		1	2	3	4	5		
<b>Government Policy and Funding Support</b>								
1	In my community, people think education is very important.	1	1	1	1	1	1.00	consistent
2	People in my neighborhood are kind and help each other.	1	1	1	1	1	1.00	consistent
3	My parents can find work near our home or have good job chances.	1	1	1	1	1	1.00	consistent
4	My family has enough money and a stable life to support my schooling.	1	1	1	1	1	1.00	consistent
5	My parents talk with me often and take part in my school life.	1	1	1	1	1	1.00	consistent
6	There are social groups and volunteers who help children like me.	1	1	1	1	1	1.00	consistent
7	My guardians care for me well and help me with my learning.	1	1	1	1	1	1.00	consistent
8	People in society notice and care about left-behind children.	1	1	1	1	1	1.00	consistent

## 2. The quality analysis results of Interview.

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
1	How can we systematically foster psychological resilience and self-directed learning motivation among left-behind	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
	children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?							
2	What specific mechanisms (eg, mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?	1	1	1	1	1	1.00	consistent
3	How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?	1	1	1	1	1	1.00	consistent
4	What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?	1	1	1	1	1	1.00	consistent
5	How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
6	What role can local community organizations (eg, village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?	1	1	1	1	1	1.00	consistent
7	How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?	1	1	1	1	1	1.00	consistent
8	What cross-departmental coordination mechanisms (eg, involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?							
9	Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?							
10	How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (eg, attendance, grades) but also captures qualitative							

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
	changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?							

### 3. The quality analysis results of evaluation form.

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
<b>Strategies for Enhancing Individual Characteristics</b>								
1	Implement resilience-oriented life skills training	1	1	1	1	1	1.00	consistent
2	Multi-dimensional psychological quality development camp	1	1	1	1	1	1.00	consistent
3	Independent learning ability module design	1	1	1	1	1	1.00	consistent
4	Emotional management and psychological counseling courses	1	1	1	1	1	1.00	consistent
5	Life adaptation scenario simulation training	1	1	1	1	1	1.00	consistent
6	Self-decision-making and executive ability training	1	1	1	1	1	1.00	consistent
7	Responsibility and task commitment project	1	1	1	1	1	1.00	consistent
8	Communication skills and expression ability workshop	1	1	1	1	1	1.00	consistent
9	Time management and learning efficiency training	1	1	1	1	1	1.00	consistent
10	Learning interest cultivation program	1	1	1	1	1	1.00	consistent
11	Creative thinking training course	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
12	Self-Awareness and Growth Planning Workshops	1	1	1	1	1	1.00	consistent
13	Personal growth record system	1	1	1	1	1	1.00	consistent
14	Tutorial system with feedback mechanism	1	1	1	1	1	1.00	consistent
15	Psychological resilience mechanism and reflection system	1	1	1	1	1	1.00	consistent
16	Cross-Grade Peer Learning Sessions	1	1	1	1	1	1.00	consistent
17	Learning ability assessment and feedback system	1	1	1	1	1	1.00	consistent
18	Personalized education plan development	1	1	1	1	1	1.00	consistent
<b>Strategies for Enhancing School Education Support</b>								
1	Establishing an Inclusive School Culture and Environment	1	1	1	1	1	1.00	consistent
2	Implementing School-based Mental Health Support Programs	1	1	1	1	1	1.00	consistent
3	Developing and Integrating Life Skills Curriculum	1	1	1	1	1	1.00	consistent
4	Establishing After-school Learning and Tutoring Centers	1	1	1	1	1	1.00	consistent
5	Building Digital Home-School Communication Platforms	1	1	1	1	1	1.00	consistent
6	Conducting Specialized Teacher Training	1	1	1	1	1	1.00	consistent
7	Implementing a School-based Growth Mentorship System	1	1	1	1	1	1.00	consistent
8	Establishing a School Resource Center	1	1	1	1	1	1.00	consistent
9	Organizing Peer Support Groups	1	1	1	1	1	1.00	consistent
10	Establishing a Comprehensive Student Development Monitoring and Early Warning Mechanism	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
11	Utilizing Digital Technology to Bridge the Resource Gap	1	1	1	1	1	1.00	consistent
12	Designing and Implementing Resilience-building Curriculum	1	1	1	1	1	1.00	consistent
13	Organizing Campus Family-bonding Activities	1	1	1	1	1	1.00	consistent
14	Establishing "Home for Left-behind Children" Activity Centers	1	1	1	1	1	1.00	consistent
15	Strengthening Collaboration with Communities and Social Organizations	1	1	1	1	1	1.00	consistent
16	Optimizing School Management and Evaluation Systems	1	1	1	1	1	1.00	consistent
17	Conducting School-based Research and Action Reflection	1	1	1	1	1	1.00	consistent
18	Establishing an Inter-school Educational Resource Sharing Alliance	1	1	1	1	1	1.00	consistent
19	Promoting Teacher and Staff Well-being and Burnout Prevention Programs	1	1	1	1	1	1.00	consistent
20	Developing and Implementing a Digital Literacy and Safe Internet Use Curriculum	1	1	1	1	1	1.00	consistent
<b>Strategies for Enhancing Family Social Factors</b>								
1	Establish Family-School-Community Collaboration Platforms	1	1	1	1	1	1.00	consistent
2	Create Parental Involvement Programs in Community Activities	1	1	1	1	1	1.00	consistent
3	Open Access Program for Community Social Resources (e.g., libraries, activity centers)	1	1	1	1	1	1.00	consistent
4	Establish a Community Volunteer Support Fund for Left-behind Children	1	1	1	1	1	1.00	consistent
5	Provide Family Education Guidance and Parenting Skills Training	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
6	Introduce Professional Social Workers and Counselors to Communities	1	1	1	1	1	1.00	consistent
7	Promote a Community Culture of Care and Inclusion	1	1	1	1	1	1.00	consistent
8	Build Collaboration Platforms among Schools, Families, and Community Organizations	1	1	1	1	1	1.00	consistent
9	Improve the Mechanism for Reporting and Supporting At-risk Children	1	1	1	1	1	1.00	consistent
10	Organize Community Lecture Halls Featuring Successful Role Models	1	1	1	1	1	1.00	consistent
11	Hold Regular Forums on Best Practices in Supporting Left-behind Children	1	1	1	1	1	1.00	consistent
12	Launch Public Awareness Campaigns to Reduce Social Stigma	1	1	1	1	1	1.00	consistent
13	Expand Inter-Community Exchange Projects for Children	1	1	1	1	1	1.00	consistent
14	Support Participation in Cultural and Sports Activities	1	1	1	1	1	1.00	consistent
15	Open Public Recreational and Cultural Resource Platforms	1	1	1	1	1	1.00	consistent
16	Build Local Community Tutoring and Mentoring Bases	1	1	1	1	1	1.00	consistent
<b>Strategies for Enhancing Government Policy and Funding Support Factors</b>								
1	Enact Specialized Local Regulations for the Education of Left-behind Children in Shaanxi Province	1	1	1	1	1	1.00	consistent
2	Establish a Multi-departmental Coordinating Committee for the Education of Left-behind Children	1	1	1	1	1	1.00	consistent
3	Optimize the Provincial Financial Allocation Formula by Incorporating a Weighted Funding Model for Left-behind Children	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
4	Launch a Government-Funded "School Social Worker Station" Program	1	1	1	1	1	1.00	consistent
5	Develop and Mandate the Use of a Unified Provincial Dynamic Information Management Platform for Left-behind Children	1	1	1	1	1	1.00	consistent
6	Incorporate Key Performance Indicators for Left-behind Children's Education into Local Government Performance Evaluations	1	1	1	1	1	1.00	consistent
7	Introduce Tax Incentives to Establish a "Social Collaborative Fund" for Left-behind Children	1	1	1	1	1	1.00	consistent
8	Institute an Annual White Paper Release and Third-Party Evaluation Mechanism for Policy Effectiveness	1	1	1	1	1	1.00	consistent

## Reliability analysis of research instruments

### Results of variable reliability correlation analysis

#### Reliability

Scale: all variables

Case handling summary			
		N	%
case	effective	384	100
	Excluded <sup>a</sup>	0	0
	Total	384	100
a. List deletion based on all variables in this program.			

Reliability statistics		
Cronbach's Alpha	Based on standardized items Cronbach's Alpha	Number of terms
.923	.923	42

#### Interviewee

##### Interviewer 1

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Develop provincial curriculum guidelines that require resilience and self-directed learning components to be part of regular subject teaching, not isolated events. 2) Align teacher pre-service and in-service training policies to equip educators with methods for cultivating these capacities in everyday classrooms. 3) Establish inter-school learning communities to share tested practices for embedding resilience routines into school culture. 4) Link inclusion of these practices to eligibility for targeted government funding, creating incentive for sustainability. 5) Set up a provincial monitoring indicator set tracked across school terms to detect erosion or progress. 6) Encourage schools to involve parents and community mentors in reinforcing consistent messaging about persistence and goal-setting. 7) Use policy levers to ensure new principals receive briefing on sustaining these systems beyond temporary initiatives.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Embed structured mentoring as a standard provision in education policy for disadvantaged groups. 2) Support local governments in piloting low-cost digital or paper-based portfolios adapted to varying infrastructure levels. 3) Integrate life-skills modules into academic curricula so goal-setting connects with real tasks like budgeting or planning study time. 4) Mandate periodic goal-review sessions in schools, with records used for both feedback and policy evaluation. 5) Create performance-based grants for schools showing measurable gains in student self-efficacy. 6) Coordinate with community organizations under unified protocols to broaden mentoring reach. 7) Encourage employers and vocational trainers to offer short skill demonstrations linked to children's personal goals. 8) Use policy incentives for schools to involve local experts in reviewing and validating portfolio evidence.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Require all schools serving significant numbers of left-behind children to adopt tiered support models in their annual work plans. 2) Give school leaders discretionary budget authority to flexibly allocate resources for individualized instruction. 3) Mandate differentiated instruction training as part of teacher qualification maintenance. 4) Facilitate partnerships with retired educators and community tutors, formalized through district-level agreements. 5) Adjust accountability metrics to include inclusivity indicators, not just academic averages. 6) Encourage lesson designs that draw on local cultural references to increase relevance. 7) Provide provincial toolkits for low-cost inclusive teaching methods adaptable to rural classrooms. 8) Include student voice mechanisms in planning to ensure their psychosocial needs shape instruction.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Incorporate psychosocial mentoring competencies into the national teacher competency framework. 2) Fund county-level mentor networks that provide peer coaching and case consultation. 3) Develop clear, quick-referral protocols linking teachers with social workers or counsellors. 4) Offer salary-scale points or public recognition for teachers completing advanced training. 5) Include scenario-based training modules using real classroom cases from left-behind contexts. 6) Create regional repositories of successful mentoring

strategies accessible to all schools. 7) Require school-level annual reports on teacher response to students' emotional needs as part of performance review. 8) Periodically update training content based on emerging research and field feedback.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Issue policy guidelines for guardian engagement adapted to low-literacy audiences. 2) Support local governments in producing visual, dialect-friendly workshop materials. 3) Fund village school liaison officers to maintain regular two-way communication with guardians. 4) Organize intergenerational learning sessions where children and guardians collaborate on simple tasks. 5) Pilot recognition schemes linking guardian participation to priority access to school services. 6) Encourage community volunteers to conduct home visits demonstrating supportive interactions. 7) Build simple FAQ booklets for common homework and behavioral issues in local language. 8) Use feedback from guardians to refine engagement methods and materials.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Include community organization engagement as a requirement in district education development plans. 2) Provide start-up grants for safe, accessible after-school spaces managed by village committees or NGOs. 3) Register community activities in a unified platform overseen by education authorities for alignment monitoring. 4) Encourage NGOs to recruit and train local youth as activity leaders. 5) Synchronize community programming with school calendars to reduce conflicts. 6) Support seasonal festivals that showcase children's achievements and build communal pride. 7) Develop joint evaluation indicators covering educational, safety, and psychosocial aspects of community programs. 8) Use policy levers to ensure continuity of community partnerships across administrative transitions.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Transition from short-term grants to multi-year performance-based funding streams for left-behind programs. 2) Legislate weighted funding formulas based on local prevalence rates. 3) Establish independent oversight committees to audit fund use and prevent diversion. 4) Require funded initiatives to present sustainability roadmaps with clear milestones. 5) Publish annual reports on allocation and impact accessible to public scrutiny.

6) Encourage provinces to create matching funds for verified local partnerships. 7) Align funding cycles with academic years to simplify planning. 8) Provide technical assistance to local governments in developing long-term investment plans. 9) Introduce penalties for non-compliance with sustainability reporting requirements.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Institutionalize inter-ministerial task forces at provincial and county levels with defined child-welfare mandates. 2) Develop secure, interoperable data-sharing protocols respecting privacy laws. 3) Standardize referral procedures so that identification in one sector automatically triggers coordinated actions in others. 4) Schedule quarterly performance reviews with benchmarks tied to child outcomes. 5) Train designated officers in each department on integrated case management. 6) Include representatives from education, health, civil affairs, and women's federations in regular coordination meetings. 7) Create escalation protocols for complex cases requiring multi-sector intensive support. 8) Use joint field visits to assess service gaps and align delivery. 9) Publish annual cross-department impact reports to maintain transparency and accountability.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Begin with policy measures that build individual resilience through curriculum and teacher capacity building. 2) Follow with systemic school reforms that embed those individual-focused practices institutionally. 3) Expand family-social engagement once schools demonstrate stable implementation. 4) Lock in gains through long-term government funding and inter-agency frameworks. 5) Use pilot data to decide sequencing in different local contexts. 6) Ensure early phases generate quick wins to sustain stakeholder commitment. 7) Build feedback loops linking evaluation results to adjustments in sequence. 8) Align capacity-building timelines so institutions can absorb changes without overload. 9) Communicate sequence rationale clearly to avoid perception of fragmented efforts.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Make mixed-methods evaluation mandatory in all funded programs for left-behind children. 2) Include validated psychosocial scales alongside academic metrics. 3) Collect data from children, caregivers, teachers, and community members for triangulation. 4) Conduct annual independent evaluations with stakeholder participation. 5) Require action plans based on evaluation findings as a funding renewal condition. 6) Build local teams capable of conducting routine monitoring to reduce external dependency. 7) Use dashboard systems to visualize trends and trigger timely interventions. 8) Incorporate child participation in defining wellbeing indicators to ensure relevance. 9) Link evaluation outcomes to policy revision processes for continual improvement.

### **Interviewer 2**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Integrate hands-on skill projects into regular school weeks so children repeatedly practice persistence and problem-solving. 2) Partner with college students as mentors who model setting and pursuing personal goals in real tasks. 3) Create school-based “creation studios” where children engage in design or craft challenges that require sustained effort. 4) Link completed projects to classroom recognition boards visible to peers and families. 5) Use local artisans to co-lead sessions, showing resilience in their own trades. 6) Schedule brief reflection moments after each project to help children internalize strategies for overcoming difficulty. 7) Build a portfolio system that tracks progress over years, not just single events.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Form cross-age mentoring circles connecting left-behind children with responsible older peers or university volunteers. 2) Use simple portfolios—paper or offline digital—to log goals, achievements, and skills learned. 3) Hold monthly “goal fairs” where children present progress and set next steps with mentor feedback. 4) Blend life-skills tasks like budgeting or time planning into project work so learning is applied. 5) Celebrate goal attainment in community gatherings to reinforce public recognition. 6) Involve local enterprises in giving short workshops that link personal goals to real job skills. 7) Rotate mentors periodically to expose children to varied role models. 8) Encourage children to self-assess and revise goals with mentor support, fostering autonomy.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Adopt project-based learning that merges academic aims with practical skills, boosting engagement across ability levels. 2) Form mixed-age learning groups so stronger pupils naturally assist peers, lowering stigma. 3) Source low-cost materials through partnerships with local factories or craftsmen. 4) Reserve weekly slots for small-group tutoring addressing both academic gaps and emotional check-ins. 5) Contextualize lessons with local cultural examples to heighten relevance. 6) Train teachers to adapt pacing and assessment methods flexibly within project frameworks. 7) Use school-community planning meetings to continuously match instruction to observed needs.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Combine subject teaching methods with mentoring techniques in teacher training, using project work as the medium. 2) Create teacher–artisan teams to co-design lessons that build both skills and trust. 3) Run peer learning circles where teachers share successful dual-focus strategies. 4) Offer short online or local workshops on child-centred coaching drawn from real cases. 5) Recognize teachers who consistently integrate emotional mentoring into routine instruction. 6) Provide access to simple toolkits for identifying early signs of emotional distress during projects. 7) Link mentoring practice to performance appraisal to incentivize sustained effort.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Run hands-on demo sessions where guardians learn by doing simple tasks with children, like basic stitching or cooking. 2) Produce pictogram guides in local dialect explaining how to assist with homework and talk to teachers. 3) Use village common spaces for intergenerational learning days that build mutual confidence. 4) Recruit community volunteers to visit homes and model supportive interactions. 5) Form support circles among guardians to exchange tips and reduce isolation. 6) Offer small tokens of recognition, like priority access to school services, for active involvement. 7) Schedule sessions at times convenient for caregivers' routines to maximize attendance.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Sponsor “creativity corners” stocked with basic tools for art, repair, and design activities. 2) Train local youth as activity leaders for weekend clubs focused on teamwork and skill building. 3) Organize seasonal festivals displaying children’s handmade products, linking skill practice with cultural pride. 4) Keep venues open on fixed, predictable schedules so children develop reliable routines. 5) Forge ties with nearby factories or cooperatives for site visits broadening children’s perspectives. 6) Involve village committees in safety checks and activity planning to ensure sustainability. 7) Encourage NGOs to rotate activity themes to sustain interest and address varied talents. 8) Use simple feedback forms from children and families to adapt programming continually.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Promote provincial matching funds for verified school-business-community partnerships. 2) Launch innovation grants favoring education-livelihood skill projects with long-term benefits. 3) Require multi-year impact plans for funded initiatives, reviewed annually. 4) Form public-private funding pools drawing in industries that benefit from a skilled future workforce. 5) Streamline reporting so implementers focus energy on delivery, not paperwork. 6) Align funding cycles with academic years and local agricultural calendars to minimize disruption. 7) Offer technical advisers to help write realistic sustainability plans.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Set up county-level alliances including education, health, civil affairs, and business associations. 2) Use shared simple dashboards to flag children needing multi-sector help, updated regularly. 3) Plan joint outreach events combining health checks, skill demos, and tutoring. 4) Assign coordinators in townships to track cases and prevent service gaps. 5) Hold quarterly reviews with representatives from each sector and community partners. 6) Develop common training for focal officers on integrated child support. 7) Create rapid-response teams for urgent multi-sector cases. 8) Document successful joint interventions as models for replication.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Start with confidence-building through doable skill projects yielding visible results quickly. 2) Reinforce with school-level reforms embedding project-based and mentoring methods. 3) Broaden family-social engagement by linking participation to tangible joint outcomes. 4) Cement gains through stable government policy and funding arrangements. 5) Use feedback loops from each phase to refine the next. 6) Allow sequencing flexibility based on local resource readiness. 7) Ensure early wins motivate stakeholders for larger institutional steps.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Measure academic metrics together with outputs from practical projects as success markers. 2) Collect self-assessments and guardian observations in straightforward formats. 3) Hold annual exhibitions of children's work doubling as evaluation and motivation events. 4) Form tri-sector review panels—education, community, enterprise—for data interpretation. 5) Train local teams in simple narrative interviewing to grasp evolving needs. 6) Use findings to recalibrate project design and support intensity. 7) Keep monitoring tools inexpensive and manageable for long-term use. 8) Share success stories widely to sustain engagement and attract new partners.

### **Interviewer 3**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Build school-level operational systems that treat resilience and self-directed learning as routine pedagogical objectives, not add-ons. 2) Align teacher appraisal and school performance metrics to reward consistent implementation of these systems. 3) Set up structured peer-support programs managed by trained staff to ensure year-round continuity. 4) Link system uses to district education plans so it receives budgetary and supervisory backing. 5) Schedule periodic internal audits to detect gaps and spread good practices across schools. 6) Encourage cross-school learning visits to observe different approaches and adapt them locally. 7) Involve parents and community mentors in reinforcing the same messages at home and in after-school settings.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Institutionalize mentoring as a standard component in school governance for vulnerable student groups. 2) Provide districts with template guidelines and simple tools for digital or paper-based portfolios. 3) Embed goal-setting and life-skills tasks into regular class and club activities, overseen by coordinators. 4) Create recognition schemes for schools showing measurable increases in student self-efficacy. 5) Form school-community agreements to broaden mentoring through NGOs and local professionals. 6) Use portfolio reviews as both formative feedback and part of accountability reporting. 7) Rotate mentors periodically to expose students to diverse role models and prevent mentor fatigue. 8) Encourage students to present goals and progress in school forums to build public accountability.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Develop clear school protocols for tiered support models matched to student profiles. 2) Allow discretionary use of school funds for individualized instruction in low-resource classrooms. 3) Require regular professional development in differentiated instruction for all teaching staff. 4) Facilitate partnerships with community volunteers and retired educators through formal coordination. 5) Include inclusivity indicators in school performance assessments, not just test scores. 6) Guide teachers to incorporate local cultural references to increase relevance and engagement. 7) Set up student feedback loops so their psychosocial needs inform instructional adjustments. 8) Provide provincial toolkits with low-cost strategies adaptable to rural contexts.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Integrate psychosocial mentoring into the official teacher competency framework. 2) Fund county-level mentor networks that provide peer coaching and case discussion. 3) Develop concise referral protocols for teachers to connect children with counsellors or social workers. 4) Offer career incentives such as advancement points for completing advanced training. 5) Use scenario-based training drawn from real left-behind classroom cases. 6) Maintain a regional database of effective mentoring practices accessible to all schools. 7) Require annual school reports on teacher responses to students' emotional needs. 8) Review and refresh training content regularly based on frontline feedback.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Embed guardian engagement activities into school operation plans with fixed schedules. 2) Supply schools with simple visual materials adapted to low-literacy caregivers. 3) Appoint liaison officers for regular home-school communication. 4) Encourage village-level parent groups to support each other in assisting children. 5) Recognize schools with strong guardian participation through public commendation and minor benefits. 6) Organize demonstration sessions where guardians learn by joining children in simple tasks. 7) Use trusted volunteers to conduct home visits showing effective supportive interactions. 8) Adjust session timing to fit caregivers' availability, raising attendance.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Include community organization partnerships in school management frameworks. 2) Provide guidelines and start-up grants for safe, well-supervised after-school spaces. 3) Register community activities in a school-maintained directory to align with educational goals. 4) Synchronize community programming with school calendars to avoid overlap and gaps. 5) Evaluate contributions annually to inform partnership improvements. 6) Encourage NGOs to train local youth as activity leaders, building community ownership. 7) Use joint planning committees to ensure activities meet both child wellbeing and educational aims. 8) Create simple feedback mechanisms from children and families to guide programmed adaptation.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Shift policy design from short-term projects to multi-year programs tied to school and district plans. 2) Embed weighted funding formulas for left-behind children in provincial budgets. 3) Establish inter-agency oversight committees to guard against fund misuse and duplication. 4) Require funded initiatives to present detailed sustainability roadmaps. 5) Publish transparent fund-use reports to maintain public trust. 6) Encourage provinces to match funds for verified local partnerships. 7) Align funding cycles with academic years for smoother planning. 8) Offer technical assistance for drafting realistic long-term investment plans. 9) Penalize non-compliance with sustainability reporting to enforce accountability.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Formalize cross-department working groups within education governance structures. 2) Develop interoperable data-sharing protocols with privacy safeguards. 3) Standardize referral procedures so identification in one sector activates coordinated response in others. 4) Hold regular performance reviews with clear benchmarks. 5) Train focal officers in each department on integrated case management. 6) Include representatives from education, health, civil affairs, and women's organizations in coordination meetings. 7) Create escalation protocols for complex multi-sector cases. 8) Conduct joint field visits to identify service gaps. 9) Publish annual impact reports to ensure transparency and drive improvement.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Begin with school-level systems that build individual resilience and learning motivation. 2) Follow with structural reforms embedding these practices institutionally. 3) Expand family-social engagement once school systems are stable. 4) Consolidate gains through long-term policy frameworks and funding. 5) Use management feedback loops to align sequence with local capacity. 6) Secure early visible wins to maintain stakeholder commitment. 7) Allow flexibility in phasing so implementation fits local conditions. 8) Align capacity-building timelines to prevent institutional overload.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Make mixed-methods evaluation a required part of school and program governance. 2) Include validated psychosocial indicators alongside academic metrics. 3) Gather data from children, caregivers, teachers, and community members. 4) Conduct annual evaluations with stakeholder participation. 5) Tie evaluation findings to funding renewal and policy adjustment. 6) Build local capacity for routine monitoring to reduce outside reliance. 7) Use dashboards to visualize trends and prompt timely action. 8) Involve children in defining wellbeing indicators for relevance. 9) Ensure evaluation results feed into iterative strategy refinement.

#### Interviewer 4

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Encourage caregivers, especially women, to weave encouragement and simple goal-checking into everyday home routines. 2) Support community women's groups to organize low-pressure, regular skill-building activities that give children a sense of achievement. 3) Link home-based resilience practices with school programs through easy home-school communication tools. 4) Provide caregivers with illustrated guides on reinforcing persistence and self-direction in age-appropriate ways. 5) Recognize households consistently supporting children in local meetings to motivate broader uptake. 6) Use storytelling sessions led by women elders to model overcoming difficulties. 7) Create joint home-school diaries monitored by teachers and caregivers to track progress.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Form mentoring pairs that include trusted women from the community or older female volunteers alongside teachers. 2) Promote simple record-keeping (notebooks or picture charts) co-managed by children and caregivers to log goals and achievements. 3) Hold monthly "family talent showcases" where children present progress with caregiver support. 4) Blend basic life-skills tasks like cooking or budgeting into these activities for real competence. 5) Celebrate achievements in community gatherings to visibly strengthen self-efficacy. 6) Rotate mentors to expose children to varied female role models. 7) Encourage children to explain their goals to peers, building verbal commitment and confidence.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Facilitate partnerships between schools and women's organizations to provide extra adult presence for emotional support. 2) Help schools form helper teams of female caregivers for after-school tutoring and companionship. 3) Ensure school communication is friendly and accessible for low-education caregivers. 4) Support schools in using examples from children's home lives in teaching materials. 5) Consult women's groups when designing inclusive programs for vulnerable students. 6) Train teachers in culturally sensitive engagement with female caregivers. 7) Create joint school-family events that build trust and mutual understanding.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Co-organize training with women's organizations on recognizing and responding to children's emotional cues. 2) Form peer support groups for teachers that include social workers and female community volunteers. 3) Develop simple referral pathways so teachers can involve caregivers and community women early. 4) Recognize teachers effectively engaging families in emotional support. 5) Update training regularly using feedback from caregivers and students. 6) Use case simulations based on real classroom situations involving left-behind children. 7) Provide toolkits for teachers to communicate sensitively with low-literacy caregivers.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Arrange regular workshops run by women's committees teaching simple ways to help with homework and talk to schools. 2) Produce pictorial, step-by-step guides in local dialects explaining school routines and support strategies. 3) Use trusted female volunteers for home visits demonstrating supportive interactions. 4) Foster grandparent support circles for sharing experiences and reducing isolation. 5) Link consistent participation to small community rewards like priority access to school services. 6) Schedule sessions at times convenient for caregivers' agricultural or work routines. 7) Involve older women mentors to bridge generational communication gaps.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Empower village women's groups to manage safe, regular activity spaces for children after school and during holidays. 2) Support NGOs in recruiting and training local women as activity leaders for life-skills and cultural programs. 3) Organize intergenerational events where children learn from elder women's stories and traditions. 4) Keep schedules consistent so children have dependable routines that lower risk behaviors. 5) Build partnerships with women-led cooperatives for hands-on learning experiences. 6) Use festive occasions to highlight children's achievements and build communal pride. 7) Ensure activities are free or low-cost to remove financial barriers.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Include Working Committee on Women and Children Liaison Mechanism in education policy frameworks linking family support to school funding. 2) Provide multi-year grants for community women's programs supplementing school efforts. 3) Mandate local governments to report on family engagement outcomes in education plans. 4) Incentivize schools to partner with women's organizations in service delivery. 5) Ensure transparency in fund use to build credibility for community programs. 6) Align funding cycles with school terms and community calendars. 7) Offer technical help to draft sustainability plans for women-led initiatives.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Establish Interdepartmental working group involving the Committee on Women and Children's Affairs to coordinate education, health, and welfare services. 2) Create shared information systems tracking children's needs across sectors, with privacy safeguards. 3) Standardize referral procedures so identification in one sector can activate women's group support. 4) Hold regular coordination meetings including women's organization representatives. 5) Train focal officers to integrate family-social support into holistic child service plans. 6) Use joint assessments to identify gaps in family engagement and service access. 7) Publish annual reports showing cross-sector outcomes for left-behind children.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Start with strengthening home and community-based emotional support involving women's groups and caregivers. 2) Build on this foundation with school programs that connect to family efforts. 3) Expand structured inter-agency collaboration once family engagement is stable. 4) Secure long-term policy and funding commitments recognizing family-social factors as core. 5) Use feedback from caregivers and community women to adapt sequence and maintain relevance. 6) Ensure early initiatives produce visible emotional and educational gains to sustain momentum.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Include caregiver and community women's observations in evaluation data collection. 2) Use simple self-report and family feedback tools to capture well-being changes. 3) Conduct annual reviews with teachers, women's groups, and local officials participating. 4) Feed findings back to policy makers and funding agencies to refine programs. 5) Build capacity among local women's teams for routine monitoring and suggesting improvements. 6) Track participation rates and quality of home-school interactions as key indicators. 7) Use storytelling and case examples in reports to illustrate qualitative change.

#### **Interviewer 5**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Strengthen community-based social networks so children experience stable, trusting relationships beyond school hours. 2) Encourage familiar adults in the village—teachers, farmers, craftspeople—to act as informal mentors modelling persistence and goal-setting. 3) Integrate community storytelling and collective problem-solving into school routines to build shared resilience. 4) Link these practices to existing village structures (elder groups, village committees) for continuity. 5) Monitor children's sense of belonging and self-direction through regular community-school surveys. 6) Use seasonal gatherings to celebrate stories of overcoming adversity, reinforcing cultural norms of resilience. 7) Create “resilience maps” drawn by children showing sources of support in their social network.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Develop mentoring systems drawing on respected local figures trusted by children and families. 2) Use simple, low-tech portfolios (notebooks, photo records) co-managed by mentors and children to mark goals and achievements. 3) Organize community “skill fairs” where children demonstrate learned abilities, receiving affirmation from peers and adults. 4) Incorporate practical tasks (gardening, repair work, budgeting) into goal pathways to connect effort with real-life outcomes. 5) Reinforce self-efficacy by publicly acknowledging progress in village gatherings. 6) Rotate mentors to expose children to diverse role models and community roles. 7) Link goal achievement to small privileges, such as leading a

community activity. 8) Encourage children to reflect in journals on how goals relate to their social context.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Align school support with existing social structures by involving community members in after-school tutoring and mentoring. 2) Use knowledge of family circumstances to shape flexible grouping and learning plans. 3) Encourage teachers to draw on community examples in teaching for relevance and inclusion. 4) Form school-community committees to review and adjust support strategies based on observed needs. 5) Ensure resource allocation considers social capital gaps in different villages. 6) Train teachers to recognize and tap into informal support networks around each child. 7) Integrate local livelihood themes into academic projects to boost engagement. 8) Create feedback loops where community members can signal changes in children's psychosocial states.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Train teachers to understand the social context of left-behind children, including kinship patterns and community relations. 2) Provide case-based training using real examples from local villages to hone mentoring and emotional response skills. 3) Create support networks connecting teachers with community elders and social workers for referrals. 4) Recognize teachers who successfully integrate community insight into emotional support. 5) Update training regularly to reflect changing social dynamics in rural areas. 6) Use role-play based on actual village scenarios to practice responsive communication. 7) Develop quick-reference guides linking common emotional signals to culturally appropriate responses.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Build on existing intergenerational networks by organizing village learning circles where grandparents share life experience and support children's learning. 2) Provide simple, oral-based training sessions (stories, demonstrations) suited to low-literacy guardians. 3) Use respected older adults to mediate communication between school and family. 4) Foster mutual-help groups among guardians to reduce isolation and share effective practices. 5) Link consistent participation to community recognition and access to school-based advice

services. 6) Encourage grandparents to participate in community storytelling linked to educational values. 7) Match mentors from the older generation with children lacking strong parental presence.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Activate village committees to maintain safe, accessible spaces for group activities rooted in local culture. 2) Support NGOs in recruiting local residents as activity leaders, strengthening community ownership. 3) Organize regular collective events (festivals, harvest learning days) that build cohesion and identity. 4) Ensure activities are scheduled consistently, leveraging existing community rhythms. 5) Connect these environments to school goals through joint planning committees. 6) Use these spaces for intergenerational learning, linking elders' knowledge with children's curiosity. 7) Provide light equipment and materials sourced locally to reduce costs and encourage continuity.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Base funding formulas on sociological data about community structure and left-behind child density. 2) Support community-driven proposals that build on local social capital. 3) Mandate local governments to report on social-network-based support outcomes. 4) Encourage policies recognizing and strengthening indigenous community roles in child development. 5) Ensure transparency and continuity so community programmed survive political cycles. 6) Align funding cycles with agricultural and festival calendars to improve participation. 7) Provide capacity-building funds for village committees to plan and manage their own programs.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Establish coordination bodies that include representatives from village-level organizations and social researchers. 2) Use shared data systems informed by community surveys to identify children needing multi-sector help. 3) Standardize referral processes that activate both formal services and informal community support. 4) Hold regular meetings with community leaders to align department actions with local social realities. 5) Train officers to integrate social capital considerations into holistic support planning. 6) Create joint fieldwork

teams to map service gaps and social assets. 7) Use case conferencing to design integrated responses involving schools, health workers, and elders.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Begin with reinforcing community social networks that naturally foster individual resilience. 2) Build school and family interventions that draw on these networks for stronger support. 3) Scale up institutional changes once social capital is activated and trusted. 4) Secure policy and funding frameworks that protect and enhance community-based structures. 5) Use ongoing sociological monitoring to adapt sequence based on relational changes among children, families, and communities. 6) Ensure initial steps demonstrate improved wellbeing to maintain stakeholder buy-in.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Include social network strength and community belonging as key qualitative indicators. 2) Gather data from multiple community sources (elders, neighbors, teachers) alongside child self-reports. 3) Conduct longitudinal studies to observe changes in children's social-emotional wellbeing. 4) Use findings to adjust both community engagement strategies and school programs. 5) Build local capacity for participatory evaluation involving villagers and school staff. 6) Document stories of change to illustrate qualitative impact in reports. 7) Track shifts in children's use of community support over time as an outcome measure.

#### **Interviewer 6**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Build development-stage-aligned programs that integrate resilience and motivation building into regular school routines, matching activities to children's cognitive and emotional maturity. 2) Train teachers to use formative feedback loops that help children recognize progress and setbacks as part of growth. 3) Create peer-led resilience groups that meet regularly, enabling shared learning from real-life challenges. 4) Link these practices to school-wide goals so they become part of institutional culture. 5) Monitor changes in self-regulation and goal commitment through periodic developmental assessments. 6) Involve

families in reinforcing the same messages about persistence and autonomy at home. 7) Use school assemblies to showcase stories of overcoming difficulty, making resilience visible.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Establish age-appropriate mentoring matching children with older youth or teachers who model goal-setting and perseverance. 2) Use simple digital or paper-based portfolios adapted to children's reading level to track goals, achievements, and skill application. 3) Incorporate life-skills tasks (time planning, money handling) into goal pathways to connect effort with tangible results. 4) Organize term-end showcases where children present progress to peers, teachers, and families to reinforce self-efficacy. 5) Adjust goal complexity gradually based on developmental assessments to sustain motivation. 6) Rotate mentors to expose children to varied aspirations and life paths. 7) Encourage children to write brief reflections on what helped them meet each goal.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Apply developmental profiles to differentiate instruction, addressing both lagging academic areas and psychosocial gaps. 2) Form flexible learning groups that mix ages and abilities, encouraging peer support aligned with developmental stages. 3) Integrate locally relevant themes into curricula to increase engagement and belonging. 4) Provide teachers with simple diagnostic tools to identify developmental needs promptly. 5) Align school schedules and assessments with gradual autonomy-building appropriate for adolescent growth. 6) Use project-based tasks reflecting real-life challenges to link learning with personal development. 7) Regularly review grouping and pacing decisions with input from students.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Train teachers in developmental psychology focusing on adolescence and vulnerability factors of left-behind children. 2) Provide case-based workshops using real classroom scenarios to hone mentoring and emotional response skills. 3) Establish teacher support circles for sharing strategies in managing emotional crises. 4) Create clear school protocols for referring children to specialists while maintaining teacher follow-up. 5) Recognize and reward teachers who demonstrate sustained emotional mentorship linked to improved student wellbeing. 6) Use simulation exercises to practice responding to sudden emotional

distress. 7) Update training regularly to reflect new research on adolescent resilience and support.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Develop simple, orally transmitted guidance aligned with guardians' developmental understanding of children's needs. 2) Use community centers to run intergenerational sessions where guardians learn age-appropriate encouragement methods. 3) Provide illustrated guides showing typical adolescent challenges and supportive responses. 4) Encourage guardians to maintain regular dialogue with teachers about developmental milestones. 5) Link consistent engagement to community appreciation and access to school-based advice services. 6) Involve older relatives in school events highlighting adolescent achievements to build connection. 7) Match mentor-like older adults with children lacking strong parental presence.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Enable community groups to organize structured after-school clubs oriented to adolescent interests (arts, tech, sports). 2) Train local youth as activity leaders who understand developmental needs of left-behind children. 3) Schedule regular events that build identity and peer bonds, reducing isolation common in this age group. 4) Ensure safe, accessible spaces that respect adolescents' need for autonomy and social interaction. 5) Coordinate club themes with school goals to reinforce learning and psychosocial development. 6) Use community mentors to model positive transitions into adulthood. 7) Provide opportunities for adolescents to take leadership roles in planning activities.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Align funding criteria with developmental outcome indicators (e.g., self-efficacy, resilience scales) for left-behind adolescents. 2) Support multi-year programs designed around stage-based interventions rather than one-off events. 3) Require grantees to report on age-specific progress to ensure resources target real developmental gaps. 4) Encourage policies that promote school-community partnerships addressing adolescent psychosocial needs. 5) Maintain transparency in fund use so stakeholders trust long-term investment in youth development. 6) Provide technical assistance for designing age-graded

activity curricula. 7) Link funding to demonstrated improvement in adolescent wellbeing metrics.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Form inter-agency adolescent support teams that include education, health, and social development experts. 2) Use shared developmental screening data to identify children needing coordinated services. 3) Standardize referral pathways that account for age-specific mental health and learning needs. 4) Hold regular case conferences involving school, health, and community staff to adjust supports. 5) Train officers to view adolescent wellbeing as a cross-cutting priority in holistic planning. 6) Include adolescent representatives in planning meetings to ensure their views shape services. 7) Create rapid-response protocols for mental health or crisis situations in this age group.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Start with interventions that build age-appropriate individual resilience and motivation during critical developmental windows. 2) Follow with school reforms that institutionalize stage-sensitive teaching and mentoring approaches. 3) Expand family-social engagement once individual capacity is supported by school structures. 4) Secure policy and funding frameworks that guarantee sustained adolescent-focused programming. 5) Use developmental monitoring data to iteratively refine sequence and intensity of strategies. 6) Ensure early phases generate quick wins to sustain stakeholder commitment. 7) Align capacity-building timelines so institutions can absorb changes without overload.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Include validated developmental scales (resilience, self-efficacy, autonomy) alongside academic metrics. 2) Collect data from multiple informants (children, teachers, guardians) to capture psychosocial nuance. 3) Conduct longitudinal evaluations to observe growth trajectories through adolescence. 4) Use findings to adapt both curricular and support interventions in real time. 5) Build evaluation capacity within local teams to sustain developmental monitoring without external dependence. 6) Document case stories illustrating

turning points in wellbeing. 7) Track participation in age-appropriate extracurricular activities as a proxy for engagement and growth.

#### **Interviewer 7**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Integrate brief, regular resilience exercises into classroom routines, such as guided reflection on small successes and setbacks. 2) Train teachers to recognize and reinforce students' coping efforts in real time. 3) Create peer support pairs or small groups that meet weekly to share challenges and strategies. 4) Link these practices to a whole-school wellbeing framework so they persist beyond individual initiatives. 5) Use storytelling drawn from students' own experiences to normalize struggle and growth. 6) Monitor changes in self-reported resilience and motivation through simple school-based scales. 7) Involve school counsellors in co-planning sessions to ensure emotional safety in these activities.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Pair children with trained mentors who focus on goal clarification and stepwise planning. 2) Use visual goal-tracking tools (charts, colour-coded steps) suited to different ages and literacy levels. 3) Incorporate life-skills tasks into goal plans, such as managing a small task or preparing for an event. 4) Provide structured opportunities for children to present goals and progress to a supportive audience. 5) Celebrate incremental achievements to reinforce self-efficacy. 6) Teach self-monitoring techniques so children can evaluate their own progress. 7) Adjust goals flexibly based on feedback and emotional readiness. 8) Use journaling prompts to help children connect effort with personal meaning.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Equip teachers with simple observational checklists to spot academic and emotional difficulties early. 2) Allow flexible pacing and assessment methods that accommodate emotional states affecting learning. 3) Blend academic content with emotionally engaging themes to improve attention and retention. 4) Create small support groups for children facing similar psychosocial stressors, facilitated by trained staff. 5) Ensure counselling staff are included in planning meetings for at-risk students. 6) Use peer-assisted

learning to build both academic and social confidence. 7) Provide teachers with scripts for having supportive conversations about emotions.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Provide training in basic mental health first aid focused on common emotional signals in left-behind children. 2) Use case discussions and role-plays based on real classroom situations. 3) Establish supervision groups where teachers can debrief challenging emotional encounters. 4) Create clear, simple referral pathways to counsellors or social workers. 5) Recognize teachers who demonstrate empathetic mentoring in performance appraisals. 6) Offer refresher sessions on developmental and trauma-related behaviors. 7) Supply quick-reference cards for responding to anxiety, withdrawal, or anger in class.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Offer short, oral-based sessions teaching guardians how to notice signs of emotional distress and respond calmly. 2) Provide illustrated guides with examples of supportive phrases and actions. 3) Use trusted community figures to model positive home conversations about school and feelings. 4) Encourage regular, low-pressure contact between guardians and teachers to build mutual understanding. 5) Link participation to small tokens of recognition that affirm their role. 6) Suggest simple routines (e.g., evening check-ins) to maintain emotional connection. 7) Match volunteers or social workers with families needing extra help in communication.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Support community-run safe spaces where children can engage in cooperative games and creative activities that build emotion regulation. 2) Train activity leaders in basic group management and recognizing signs of distress. 3) Schedule regular sessions that combine recreation with simple problem-solving tasks. 4) Ensure consistent timing so children can rely on these opportunities. 5) Link activities to school wellbeing themes to reinforce consistent messaging. 6) Involve older youth as co-facilitators to provide relatable role models. 7) Provide light materials and quiet zones for emotional calming when needed.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Include mental health and resilience-building indicators in funding performance criteria. 2) Support multi-year school counselling posts and training programs. 3) Require grantees to report on both quantitative and qualitative wellbeing outcomes. 4) Encourage policies that embed counsellors in multidisciplinary child support teams. 5) Ensure funding covers supervision and continuous professional development for mental health staff. 6) Align funding cycles with academic years to protect service continuity. 7) Provide technical assistance for schools to build sustainable internal capacity.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Form inter-agency teams that include mental health professionals, educators, and social workers. 2) Use shared screening tools to identify children needing psychological support alongside other services. 3) Standardize referral and feedback loops across sectors. 4) Hold regular case conferences to coordinate responses for complex emotional or behavioral needs. 5) Train officers in trauma-informed and resilience-focused approaches. 6) Include mental health outcomes in holistic child wellbeing reports. 7) Ensure counselling staff participate in planning to align psychological care with education and welfare goals.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Begin with building individual emotional resilience through daily classroom and counselling practices. 2) Follow with school-wide systems that embed these practices and train staff at scale. 3) Expand family-social engagement once children have internalized basic coping strategies. 4) Secure policy and funding frameworks guaranteeing ongoing mental health support. 5) Use wellbeing data to refine sequence and intensity of interventions. 6) Ensure early wins in emotional stability motivate broader institutional commitment. 7) Align training and supervision capacity before scaling up.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Use validated psychological scales alongside academic metrics to track resilience, anxiety, and self-efficacy. 2) Collect data from children, teachers, and caregivers for triangulation. 3) Conduct annual evaluations including qualitative case reviews. 4) Feed findings back into training, policy, and funding decisions. 5) Build capacity for local teams to conduct routine emotional wellbeing checks. 6) Document narratives of change to illustrate intervention impact. 7) Track usage and outcomes of counselling services as key indicators. 8) Adjust strategies promptly when data shows emerging emotional risks.

#### **Interviewer 8**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Integrate resilience and motivation routines into regular class periods, such as brief weekly reflection on progress and effort. 2) Train teachers in simple techniques for giving immediate, specific praise linked to perseverance. 3) Establish grade-level peer support groups that meet regularly to discuss challenges and solutions. 4) Align these practices with county-level school quality assessments so they are sustained. 5) Use local success stories of students overcoming difficulties as part of morning announcements or bulletin boards. 6) Monitor changes through teacher observation logs and short student self-reports. 7) Involve school principals in reviewing and reinforcing these routines during supervision visits.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Set up school-based mentoring schemes pairing students with senior teachers or older students known for reliability. 2) Use paper-based or low-tech digital portfolios adapted to our infrastructure, with visual trackers for goals and achievements. 3) Incorporate practical tasks like planning a study timetable or preparing for a presentation into goal-setting activities. 4) Hold term-end sharing sessions where students present goals and what helped them succeed. 5) Celebrate progress in school assemblies to make achievements visible and build confidence. 6) Adjust goal difficulty based on regular teacher check-ins. 7) Encourage students to keep a simple journal linking effort with personal meaning. 8) Engage local craftspeople or farmers to demonstrate how goal-setting works in real life.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Implement tiered support models in every school with significant left-behind populations, based on regular student assessments. 2) Allow school leaders to reallocate part of discretionary funds for individualized learning materials and small-group sessions. 3) Provide ongoing training for teachers in differentiated instruction adapted to mixed-ability classes. 4) Form school-community partnerships to bring in retired teachers or college students as tutors. 5) Adjust accountability metrics to include participation and progress of vulnerable students, not just average scores. 6) Use locally relevant examples in lessons to increase engagement and cultural connection. 7) Create channels for students to express psychosocial needs that inform teaching adjustments. 8) Ensure counselling or psychosocial staff are involved in planning for at-risk learners.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Include basic psychosocial mentoring and mental health first-aid in county teacher training programs. 2) Use case-based workshops drawing on real situations from our schools. 3) Establish teacher peer support groups moderated by experienced mentors or psychologists. 4) Develop simple referral protocols for accessing social workers or counsellors. 5) Recognize and reward teachers who show consistent, empathetic engagement with students' emotional needs. 6) Provide quick-reference guides for responding to signs of anxiety, withdrawal, or conflict. 7) Schedule regular follow-up sessions to reinforce skills and address challenges.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Organize short, oral-based workshops at village schools led by teachers or women's groups, showing how to help with homework and talk constructively with children. 2) Produce pictorial guides in local dialect explaining school routines and emotional support strategies. 3) Use trusted volunteers to make home visits demonstrating positive interactions. 4) Foster grandparent support circles for sharing experiences and reducing isolation. 5) Link regular participation to small community benefits like priority access to school services. 6) Schedule sessions at times that suit caregivers' agricultural or work calendars. 7) Involve older respected adults to mediate communication between school and family.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Support village committees in providing safe, accessible spaces for after-school and holiday activities. 2) Help NGOs recruit and train local youth as activity leaders familiar with children's needs. 3) Organize regular cultural and recreational events that build peer bonds and self-esteem. 4) Keep activity schedules consistent so children can rely on them. 5) Coordinate themes with school priorities to reinforce learning and wellbeing. 6) Partner with local cooperatives or businesses for hands-on learning visits. 7) Ensure activities are low-cost or free to remove financial barriers.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Shift from short-term grants to multi-year funding streams tied to school improvement plans. 2) Include weighted formulas based on local left-behind child population in county budgets. 3) Require funded programs to submit sustainability roadmaps and annual progress reports. 4) Establish county oversight teams to audit use and prevent diversion of funds. 5) Encourage matching funds from provincial or private sources for verified local partnerships. 6) Align funding cycles with academic years and farming calendars to minimize disruption. 7) Provide technical assistance to help schools and villages write realistic long-term plans.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Set up county-level inter-agency teams including education, health, civil affairs, and community representatives. 2) Use shared data systems to flag children needing multi-sector support, with privacy safeguards. 3) Standardize referral and feedback procedures across departments. 4) Hold quarterly reviews with performance benchmarks tied to child outcomes. 5) Train focal officers in each department on integrated case management. 6) Conduct joint field visits to assess service gaps. 7) Publish annual reports to maintain transparency and drive improvement.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Begin with building individual resilience through classroom routines and teacher mentoring. 2) Follow with school system reforms embedding these practices and building staff capacity. 3) Expand family-social engagement once school foundations are stable.

4) Secure long-term policy and funding to lock in gains. 5) Use monitoring data to adapt sequence based on local readiness. 6) Ensure early visible improvements to sustain stakeholder commitment. 7) Align training and supervision capacity before scaling up institutional changes.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Include both academic and psychosocial indicators in school evaluations. 2) Collect data from teachers, students, and caregivers for a fuller picture. 3) Conduct annual reviews involving external and internal observers. 4) Use findings to adjust training, resource allocation, and policy implementation. 5) Build local capacity for routine monitoring to reduce reliance on external evaluators. 6) Document case stories showing change over time. 7) Track participation and outcomes of support services as key indicators. 8) Ensure evaluation results inform the next cycle of planning and funding.

#### **Interviewer 9**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Build daily routines that include simple reflection on effort and small successes, suitable for young children's cognition. 2) Use story-based learning to show characters overcoming difficulties, helping children internalize resilience concepts. 3) Encourage peer cooperation games that require persistence and problem-solving. 4) Train early-years teachers to recognize and reinforce children's coping behaviors in natural play and tasks. 5) Link these practices to kindergarten and early primary school quality standards for continuity. 6) Involve families in repeating similar messages at home through illustrated daily rituals. 7) Monitor development through teacher observations and brief caregiver check-ins. 8) Create "resilience corners" in classrooms where children can revisit past challenges and solutions.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Pair younger children with older buddy peers or reliable teachers for goal-setting support. 2) Use picture-based or tactile portfolio tools to track goals and achievements, matching different literacy levels. 3) Embed simple life-skills tasks (tidying, taking turns, preparing materials) into goal pathways. 4) Hold regular small-group sharing sessions where

children show progress with adult facilitation. 5) Celebrate achievements in class ceremonies to reinforce self-efficacy. 6) Adjust goals in line with developmental readiness observed by teachers. 7) Encourage children to draw or tell stories about how they reached a goal. 8) Involve parents or guardians in reviewing portfolios to strengthen home-school consistency.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Apply developmental checklists to identify varied needs early in kindergarten and early primary grades. 2) Use flexible grouping for learning activities so children can progress at their own pace. 3) Integrate locally familiar themes and materials into lessons to increase relevance and comfort. 4) Provide teachers with simple tools for adapting tasks to different ability levels during play and structured activities. 5) Ensure access to basic learning resources (books, manipulatives) adapted to small-group use. 6) Form school-family liaison routines so psychosocial concerns inform instructional adjustments. 7) Coordinate transition plans from preschool to primary to maintain continuity of support. 8) Train teachers in scaffolding techniques that build autonomy gradually.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Provide training in early childhood mental health and recognizing signs of emotional stress in young learners. 2) Use case discussions based on real classroom episodes involving left-behind children. 3) Create peer learning circles for sharing successful strategies in emotional mentoring. 4) Develop clear, simple referral steps to connect children with counsellors or social workers when needed. 5) Recognize teachers who demonstrate consistent, caring responses in performance appraisals. 6) Supply quick-reference guides for responding to withdrawal, tantrums, or clinginess in age-appropriate ways. 7) Offer follow-up coaching sessions to sustain skills over time.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Run short, oral workshops at kindergartens or village schools showing how to support learning through daily routines and play. 2) Produce pictorial, dialect-friendly guides explaining how to encourage persistence and handle emotional moments. 3) Use trusted community figures to model positive home-school communication. 4) Encourage regular, low-

pressure contact between guardians and teachers to build mutual understanding. 5) Link participation to small tokens of recognition affirming their educational role. 6) Suggest simple rituals (bedtime talks, game-based learning) to maintain emotional connection. 7) Match volunteers with families needing extra help in applying supportive strategies.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Support community-managed safe play and learning spaces for preschool and early primary aged children. 2) Train local youth as activity facilitators familiar with early development needs. 3) Organize regular cultural games and storytelling events that build group belonging. 4) Keep schedules predictable so children can rely on these opportunities. 5) Link activities to school readiness and wellbeing themes for consistent messaging. 6) Partner with local artisans or elders to introduce practical skills through play. 7) Ensure environments are stimulating but not overstimulating, with quiet areas for regulation.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Include early childhood development indicators in funding performance criteria for left-behind populations. 2) Support multi-year positions for early-years mentors and inclusive education training. 3) Require grantees to report on both academic readiness and psychosocial wellbeing outcomes. 4) Encourage policies embedding early-years specialists in multidisciplinary child support teams. 5) Ensure funding covers supervision and continuous professional development for preschool and early-primary staff. 6) Align funding cycles with academic years to protect continuity of services. 7) Provide technical assistance for building sustainable local capacity in early childhood support.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Form inter-agency teams that include early childhood educators, health workers, and social service staff. 2) Use shared developmental screening tools to identify children needing coordinated support from preschool onward. 3) Standardize referral and feedback loops across sectors, with consent protocols. 4) Hold regular case conferences for complex needs involving multiple services. 5) Train officers in developmentally appropriate and trauma-informed approaches. 6) Include early childhood outcomes in holistic child

wellbeing reports. 7) Ensure early-years staff participate in planning to align educational and welfare goals.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Begin with building individual resilience and early learning motivation through daily classroom and home routines. 2) Follow with institutional reforms that embed these practices across preschool and early-primary systems. 3) Expand family-social engagement once foundational skills and supports are in place. 4) Secure policy and funding frameworks guaranteeing sustained early-years investment. 5) Use developmental monitoring data to refine sequence and intensity of interventions. 6) Ensure early visible gains in school readiness and emotional security motivate broader commitment. 7) Align educator training and supervision capacity before scaling institutional changes.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Use validated early childhood development scales alongside academic readiness indicators. 2) Collect data from teachers, caregivers, and community workers for triangulation. 3) Conduct annual evaluations including qualitative case reviews of individual progress. 4) Feed findings back into training, policy, and funding decisions. 5) Build capacity for local teams to conduct routine developmental and wellbeing checks. 6) Document narratives of change showing how early support influences later outcomes. 7) Track participation and outcomes of early-years support services as key indicators. 8) Adjust strategies promptly when monitoring reveals emerging risks or unmet needs.

**Interviewer 10**

**Q1. How can we systematically foster psychological resilience and self-directed learning motivation among left-behind children, moving beyond temporary workshops to embed these capacities into daily school life and long-term personal development?**

I think 1) Mobilize women's organizations to help families establish simple daily routines that include encouragement and recognition of effort. 2) Support community achievement and persistence. 3) Link home practices with school messages through easy-to-use home-school communication tools. 4) Provide caregivers with illustrated, easy-read guides on reinforcing self-direction and coping strategies. 5) Recognize and publicize households consistently supporting children's growth in community meetings. 6) Use storytelling led by

women elders to model overcoming difficulties in culturally resonant ways. 7) Create joint home-school reflection diaries monitored jointly by teachers and caregivers to track progress over time.

**Q2. What specific mechanisms (e.g., mentoring systems, digital portfolios) can be established to help left-behind children set clear personal goals, build self-efficacy, and develop practical life skills that are crucial for navigating their unique challenges?**

I think 1) Form mentoring pairs that include trusted women from the community or older female volunteers working alongside teachers. 2) Promote simple record-keeping (notebooks, picture charts) co-managed by children and caregivers to log goals and achievements. 3) Hold monthly “family talent showcases” where children present progress with caregiver support. 4) Blend basic life-skills tasks like cooking, budgeting, or planning errands into these activities for real competence. 5) Celebrate goal attainment in community gatherings to visibly strengthen self-efficacy. 6) Rotate mentors to expose children to varied female role models and life paths. 7) Encourage children to explain goals and progress to peers, building verbal commitment. 8) Link achievements to small privileges, such as leading a community activity, reinforcing agency.

**Q3. How should school education support be restructured to provide truly individualized and inclusive instruction that meets the diverse academic and psychosocial needs of left-behind children, particularly in resource-constrained settings?**

I think 1) Facilitate partnerships between schools and women’s organizations to provide additional adult presence for emotional support. 2) Help schools form helper teams of female caregivers for after-school tutoring and companionship. 3) Ensure school communication materials are friendly and accessible for low-education caregivers. 4) Support schools in using examples from children’s home lives in teaching to increase relevance. 5) Consult women’s groups when designing inclusive programs for vulnerable students. 6) Train teachers in culturally sensitive engagement with female caregivers. 7) Create joint school-family events that build trust and mutual understanding. 8) Use feedback from caregivers to adjust teaching approaches and support services.

**Q4. What targeted training and ongoing support systems are needed to equip teachers with the skills to not only deliver knowledge but also act as mentors and first responders to the emotional needs of left-behind children in their classrooms?**

I think 1) Co-organize training with women’s organizations on recognizing and responding to children’s emotional cues. 2) Form peer support groups for teachers that include social workers and female community volunteers. 3) Develop simple referral pathways so teachers can involve caregivers and community women early. 4) Recognize teachers

effectively engaging families in emotional support. 5) Update training regularly using direct feedback from caregivers and students. 6) Use case simulations based on real classroom situations involving left-behind children. 7) Provide toolkits for teachers to communicate sensitively with low-literacy caregivers. 8) Include modules on building trust with families as a foundation for mentoring.

**Q5. How can we design effective and sustainable channels to actively engage grandparents or other guardians in the educational process, enhancing their capacity to provide academic and emotional support despite potential limitations in their own education or resources?**

I think 1) Arrange regular workshops run by women's committees teaching simple ways to help with homework and talk to schools. 2) Produce pictorial, step-by-step guides in local dialects explaining school routines and support strategies. 3) Use trusted female volunteers for home visits demonstrating supportive interactions. 4) Foster grandparent support circles for sharing experiences and reducing isolation. 5) Link consistent participation to small community rewards like priority access to school services. 6) Schedule sessions at times convenient for caregivers' agricultural or work routines. 7) Involve older women mentors to bridge generational communication gaps. 8) Encourage grandparents to attend school events celebrating children's achievements to strengthen bonds.

**Q6. What role can local community organizations (e.g., village committees, NGOs) play in creating a stable, nurturing, and activity-rich environment outside of school hours to compensate for the absence of migrant parents?**

I think 1) Empower village women's groups to manage safe, regular activity spaces for children after school and during holidays. 2) Support NGOs in recruiting and training local women as activity leaders for life-skills and cultural programs. 3) Organize intergenerational events where children learn from elder women's stories and traditions. 4) Keep schedules consistent so children have dependable routines that lower risk behaviors. 5) Build partnerships with women-led cooperatives for hands-on learning experiences. 6) Use festive occasions to highlight children's achievements and build communal pride. 7) Ensure activities are free or low-cost to remove financial barriers. 8) Link activity themes to school goals and wellbeing messages for reinforced learning.

**Q7. How can government policies and funding models be innovated to ensure stable, long-term, and predictable resource allocation specifically targeted at supporting left-behind children, moving away from short-term project-based funding?**

I think 1) Include Working Committee on Women and Children Liaison Mechanism in education policy frameworks linking family support to school funding. 2) Provide multi-year grants for community women's programs supplementing school efforts. 3) Mandate local

governments to report on family engagement outcomes in education plans. 4) Incentivize schools to partner with women's organizations in service delivery. 5) Ensure transparency in fund use to build credibility for community programs. 6) Align funding cycles with school terms and community calendars. 7) Offer technical help to draft sustainability plans for women-led initiatives. 8) Encourage policies recognizing family-social engagement as a core component of educational sustainability.

**Q8. What cross-departmental coordination mechanisms (e.g., involving education, civil affairs, health) are essential to create a seamless, wrap-around support system that addresses the educational, health, and welfare needs of left-behind children holistically?**

I think 1) Establish Interdepartmental working group involving the Committee on Women and Children's Affairs to coordinate education, health, and welfare services. 2) Create shared information systems tracking children's needs across sectors, with privacy safeguards. 3) Standardize referral procedures so identification in one sector can activate women's group support. 4) Hold regular coordination meetings including women's organization representatives. 5) Train focal officers to integrate family-social support into holistic child service plans. 6) Use joint assessments to identify gaps in family engagement and service access. 7) Publish annual reports showing cross-sector outcomes for left-behind children. 8) Ensure women's groups are consulted in designing integrated service pathways.

**Q9. Considering the interlinkages between the four dimensions, what should be the optimal sequence for implementing strategies? For instance, should strengthening individual resilience precede large-scale institutional changes, or vice versa, to create a foundation for sustainable impact?**

I think 1) Start with strengthening home and community-based emotional support involving women's groups and caregivers. 2) Build on this foundation with school programs that connect to family efforts. 3) Expand structured inter-agency collaboration once family engagement is stable. 4) Secure long-term policy and funding commitments recognizing family-social factors as core. 5) Use feedback from caregivers and community women to adapt sequence and maintain relevance. 6) Ensure early initiatives produce visible emotional and educational gains to sustain momentum. 7) Align training for staff and volunteers to support integrated implementation.

**Q10. How can we establish a robust monitoring, evaluation, and learning framework that not only tracks quantitative outcomes (e.g., attendance, grades) but also captures qualitative changes in the well-being of left-behind children, ensuring strategies remain adaptive and responsive to their evolving needs?**

I think 1) Include caregiver and community women's observations in evaluation data collection. 2) Use simple self-report and family feedback tools to capture well-being changes. 3) Conduct annual reviews with teachers, women's groups, and local officials participating. 4) Feed findings back to policy makers and funding agencies to refine programs. 5) Build capacity among local women's teams for routine monitoring and suggesting improvements. 6) Track participation rates and quality of home-school interactions as key indicators. 7) Use storytelling and case examples in reports to illustrate qualitative change. 8) Ensure evaluation processes involve women's organizations as equal partners, not just data providers.

Appendix E  
Certificate of English



This is to certify that

***Mr. Gan Lin***

Achieved BSRU English Proficiency Test (BSRU-TEP) level

**C1**

Given on 15<sup>th</sup> August 2025

(Assistant Professor Dr Kulsirin Aphiratvoradej)

Director

Appendix F  
The Document for Accept Research



Open Access Publisher

## African Educational Research Journal

www.netjournals.org

**Date:** February 19, 2026

**Ref:** AERJ-2026-014

**Title:** *Strategies for the sustainable development of education for left-behind children in Shanxi Province*

**Lin Gan**

Bansomdejchaopraya Rajabhat University

Bangkok

Thailand

### Acceptance Letter

Dear Lin Gan,

We are pleased to inform you that your manuscript, titled "*Strategies for the sustainable development of education for left-behind children in Shanxi Province*," by authors "**Lin Gan, Phisanu Bangkheow, Phatchareephorn Bangkheow and Touchakorn Suwancharas**," has been accepted for publication in the *African Educational Research Journal*.

The manuscript will be published in Volume 14, Issue 1, February 2026.

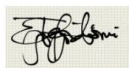
The final Galley Proof will be sent to you via email as an Acrobat PDF (Portable Document Format) file. Please note that at this stage, only essential corrections to errors in the text or figures will be permitted. Any other alterations will not be acceptable.

We congratulate you on this achievement and thank you for choosing the *African Educational Research Journal* as the platform for your research. Should you have any questions or require further assistance, please do not hesitate to contact us.



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Best regards,



Ejofodomi Triumphant  
Manager  
Net Journals



## Research Profile

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