Strategies for the Development of Area-Based Cooperation Mechanisms to Reduce Inequality in Education *

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Abstract

This article aims 1) to analyze the current situation and necessary needs for developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province, 2) to create strategies for developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province, and 3) to establish cooperation mechanism to reduce educational inequality in Chiang Rai Province. The research follows a mixed-method approach. The study area includes the Office of Educational Service Area 16 and the Chiang Rai Provincial Education Office. The target group comprises 44 members, including the Provincial Education Committee, the Subcommittee on Strategic Government Administration, the Education Development Subcommittee, and the Strategic Government Administration Working Group, selected through purposive sampling. The research instruments include 1) questionnaires, 2) semi-structured interviews, and 3) focus group discussions. Data analysis employs percentage, mean, and standard

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deviation for quantitative research, while content analysis and descriptive writing are used for qualitative research.

The research findings indicate that developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province should focus on providing information and options for special target groups to access education, fostering collaboration between various agencies to raise awareness in language, logic, and mathematics, and ensuring access to early childhood development and pre-primary education to prepare children for primary education by 2030. Additionally, strategies include developing education in border areas and Special Economic Zones (SEZs) by enhancing technological infrastructure and comprehensive human resource management and improving the efficiency of local learning resources, using the CATWOE process as the analytical framework. The results of this research can be further applied to create systems and mechanisms that promote participation in reducing educational inequality at the local level, particularly for the Provincial Education Office and the Regional Education Office, which have the primary responsibility for enhancing localized education.

Keywords: development strategy; educational inequality; cooperation mechanism

1. Introduction

Educational inequality is a persistent global issue that varies across regions and communities. It reflects broader socio-economic disparities and continues to challenge the realization of equitable education systems. This paper explores the potential of area-based cooperation mechanisms in mitigating educational inequality. By focusing on specific geographic areas, such mechanisms leverage local resources and collaboration among stakeholders to target the unique causes of inequality in

those regions. This approach, involving cooperation between governments, schools, non-profit organizations, and communities, provides a framework for addressing educational disparities more effectively.

The concept of area-based cooperation in education emphasizes the importance of localized strategies tailored to the needs of specific communities. These strategies are built upon collaboration among key players such as local authorities, educators, families, and civil society. By pooling resources and working collectively, these groups can address the underlying causes of educational inequality, such as poverty, lack of infrastructure, and limited access to quality teachers and materials. This study investigates the theoretical foundations of area-based cooperation, presents case studies, and outlines the challenges and opportunities inherent in these strategies.

Educational inequality manifests in multiple ways, including disparities in access, quality, and educational outcomes. According to UNESCO's Global Education Monitoring Report (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2020), over 260 million children and youth were out of school in 2018, with the majority coming from marginalized communities in low-income countries. Furthermore, children from wealthier households are far more likely to complete secondary education than their poorer counterparts. International assessments like the Programme for International Student Assessment (PISA) also highlight that socio-economically disadvantaged students consistently perform worse academically. These findings underscore the urgency of implementing policies and interventions that address these gaps.

In Thailand, the situation is no less concerning. Despite education receiving the highest proportion of the national budget, the educational outcomes remain unsatisfactory. Data from the Office of the Education Council shows that from 2017 to 2019, the percentage of Thai children receiving education declined, and the COVID-19 pandemic further exacerbated this trend. In 2020, the student retention rate

dropped to an alarming 82.88%, and in 2021 it further declined to 81.75%. Such figures highlight a significant challenge in ensuring educational continuity and access, particularly for children from disadvantaged backgrounds.

The province of Chiang Rai serves as a case study for examining educational inequality in Thailand. This northern province, like many others, faces significant disparities in access to education. Poor and extremely poor students are overrepresented in the province, and these economic challenges contribute to a higher dropout rate. In the 2021 academic year, 20.88% of students were classified as poor or extremely poor, making Chiang Rai one of the most vulnerable regions in terms of educational inequality. Furthermore, the province's average O-NET scores, a national standardized test for Grade 12 students, have consistently been below the national average, reflecting the academic performance gap.

Educational inequality remains a critical issue, both globally and locally, as demonstrated in Chiang Rai Province. The area-based cooperation model offers a promising strategy for reducing disparities in education by addressing the specific needs of communities. However, challenges such as budget constraints and limited manpower must be overcome to fully realize the potential of these mechanisms. This study aims to contribute to the development of sustainable and effective strategies that can lead to more equitable educational outcomes, ensuring that all individuals, regardless of their socio-economic background, have the opportunity to succeed.

2. Research Objectives

1. To analyze the current situation and necessary needs for developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province.

2. To create strategies for developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province.

3. To establish a cooperation mechanism to reduce educational inequality in Chiang Rai Province.

3. Methods

1. Population and Sample Groups

The population and sample groups in this research include the Provincial Education Committee, the Strategic Administration Committee, the Education Development Committee, and the Strategic Administration Task Force, totaling 36 individuals. The representatives are the agencies involved in the education development in Chiang Rai province.

2. Research Instruments

The research instruments used consist of 1) questionnaires, 2) semi-structured interviews, and 3) focus-group discussions.

3. Data Collection

3.1 Document studies related to research reports on mechanisms of spatial cooperation to reduce educational disparities.

3.2 Semi-structured interviews with target population groups of the 4 target groups to assess issues related to spatial cooperation mechanisms to reduce educational disparities.

3.3 Environmental analysis of the organization (SWOT Analysis) using the focus group method.

3.4 Synthesis of data from points 1-3 to create a model of activity systems and develop a handbook for spatial cooperation mechanisms to reduce educational disparities.

3.5 Strategy formulation through practical workshops with the involved administrators including analysis to define vision/mission/goals, use of the TOWS Matrix principle, and development of strategy maps. In this stage, CATWOE analysis is included to form a mechanism to reduce educational inequality in Chiang Rai province.

Figure 1. CATWOE Analysis Framework. (Bridges, 2024)

4. Data Analysis

Quantitative research involves analysis using percentages, means, and standard deviations, while qualitative research involves content analysis and interpretative descriptions.

4. Results

Objective 1: The results of the research found that the opinions of the target group regarding the current conditions in developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province at a moderate level and above are as follows.

In the **Inform** stage of creating alternatives and opportunities, it was observed that related agencies demonstrated moderate involvement with the Chiang Rai Provincial Education Office in developing mechanisms for spatial cooperation to reduce educational disparities. Specifically, agencies collaborated moderately in promoting and supporting access to compulsory education systems for children and youth, with a mean score of 3.33. There was moderate collaboration in ensuring that all children complete quality primary and secondary education without financial barriers by the year 2573 (mean = 3.08). Collaboration was slightly lower in efforts to ensure literacy and numeracy for all by 2573, receiving a mean score of 2.91. In fostering an inclusive society by distributing social opportunities, collaboration was also moderate (mean = 2.76). Additionally,

efforts to promote vocational education management and develop public education curricula received a mean score of 2.75, indicating moderate collaboration. Family-based education and home-based learning initiatives also saw moderate collaboration, with a mean score of 2.74. Gender disparities and access for vulnerable groups received a slightly lower collaboration rating, with a mean of 2.67. Finally, there was moderate collaboration in enhancing the quality of early childhood education and improving its readiness by 2030 (mean = 2.66), while providing diverse educational opportunities for special target groups, such as NEETs (youth not in education, employment, or training), had the lowest mean score of 2.58.

Regarding **Consultation**, the Chiang Rai Provincial Education Office showed a high level of opportunity to receive feedback for the development of strategies and educational development, reflected in a mean score of 3.66. A significant level of feedback was also solicited for policy development, with a mean score of 3.58. However, receiving feedback on local education management aimed at reducing educational disparities in Chiang Rai Province was moderate, with a mean score of 3.41. This highlights the need for improvement in engaging local stakeholders in shaping education management strategies.

In terms of **Involvement**, committees and working groups affiliated with the Chiang Rai Provincial Education Office played an important role in influencing educational management development in the province, as indicated by a mean score of 3.41. There was moderate collaboration in efforts to create an opportunity society by distributing educational opportunities and developing societal skills, with a mean score of 3.08. Collaboration was also moderate in managing learning resources and ensuring the cleanliness and safety of school environments, both internally and externally, with a mean score of 3.07. However, there was less cooperation in fostering awareness in key areas like language, mathematics, music, sports, and interpersonal relationships, where the mean score dropped to 2.50.

In the **Empower** stage, there was a moderate level of consensus regarding collaboration between various organizations and the Chiang Rai Provincial Education Office in promoting joint policy and strategic planning in educational management across Chiang Rai Province, reflected in a mean score of 3.00. This level of empowerment suggests that while there is room for improving collaboration, the foundation for joint efforts in educational planning is present and can be built upon.

When analyzing feedback from the target groups regarding the requirements for developing a local cooperation mechanism to reduce educational disparities in Chiang Rai, several key insights emerged.

Firstly, in the **Inform** aspect, related agencies collaborated extensively in ensuring that all boys and girls complete quality primary and secondary education without financial barriers, achieving a high collaboration rating (average = 4.75). Equal access to development opportunities, literacy, and numeracy skills promotion by 2030, and support for vocational education for employment all received similarly high collaboration ratings, ranging from 4.58 to 4.67. Collaboration in providing diverse learning options for special target groups and promoting compulsory education for children and youth also received high ratings, indicating strong agency involvement.

In terms of **Consultation**, the highest levels of feedback were given for planning and driving development initiatives to reduce educational disparities, with an average rating of 4.83. Soliciting feedback on youth vocational skills development and local education management also received high scores (average = 4.75 and 4.66, respectively). Feedback for developing strategies and educational policies at the Chiang Rai Provincial Education Office was also highly rated, indicating significant engagement from stakeholders.

Regarding **Involvement**, the highest levels of feedback were observed in collaborative efforts to enhance learning effectiveness through factors related to

students and external influences, receiving an average rating of 4.84. Collaboration in creating an equitable society by distributing educational opportunities and developing vocational skills also received a high rating (average = 4.83). Additionally, joint initiatives to support learning environment management and ensure safety both inside and outside schools were highly rated (average = 4.82), showing robust public involvement.

Finally, in **Empowerment**, opportunities provided by the Chiang Rai Provincial Education Office for organizational activities aimed at developing education and vocational skills to reduce disparities received the highest rating (average = 4.83). Collaborative strategies aimed at involving relevant educational management agencies in reducing educational disparities also received strong support, with average ratings of 4.67. This feedback suggests a high level of stakeholder empowerment in decision-making processes aimed at fostering sustainable educational management.

Overall, these findings highlight the importance of collaboration and stakeholder involvement in reducing educational disparities in Chiang Rai Province, with particular emphasis on the role of consultation and empowerment in fostering effective and inclusive educational policies.

Objective 2: Creating a strategy for developing a spatial cooperation mechanism to reduce educational inequality in Chiang Rai Province.

It is a picture of a problematic situation: The Problematical Situation: Unstructured by analyzing issues from SWOT analysis.

1. In the context of educational development in border areas

For the internal analysis, the average score totaled -2.68, highlighting weaknesses. Strengths were identified with an average score of 1.85. For the external analysis, opportunities averaged 2.70, while obstacles averaged -2.34, resulting in a total average of 0.36, indicating opportunities. These indicate the following development strategies; OW1: Reforming educational management

systems in border areas through collaboration with relevant agencies. OW2: Enhancing personnel capabilities to foster diverse learning management through equitable educational management platforms as shown in Figure 2.
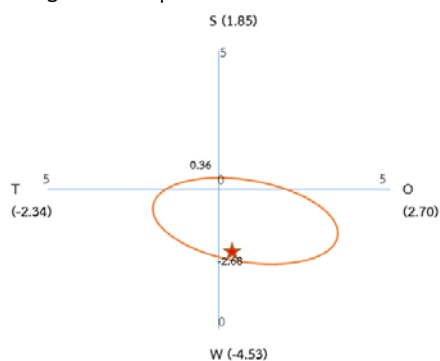

Figure 2. Current position of Chiang Rai educational management in border areas

2. In the context of educational development in Special Economic Zones (SEZ)

For the internal analysis, the average real score was -0.12. Strengths averaged 4.40, while weaknesses averaged -4.52, indicating weaknesses in internal factors. For the external analysis, the overall average score was 0.07. Opportunities averaged 4.52, while obstacles averaged -4.44. These indicate the following development strategies; OW1: Developing technological infrastructure to foster learning about SEZs. OW2: Encouraging investment in regulations, laws, rights, and benefits to reduce labor migration and urban migration. OW3: Reforming the operations of relevant agencies to develop education in SEZs through integrated cooperation within the region and internationally as shown in Figure 3.
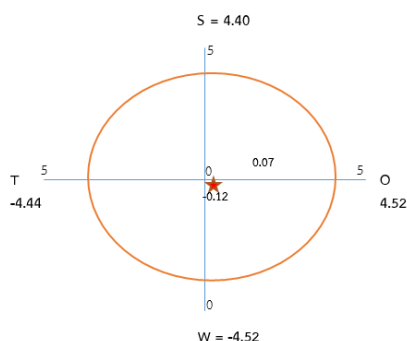
Figure 3. Current position of educational development in Chiang Rai Special Economic Zones (SEZ)

3. In the context of educational development in Chiang Rai Province

For the internal analysis, the overall average score was 1.03, indicating strengths with strengths averaging 4.45 and weaknesses averaging -3.43, emphasizing internal strengths in educational development to reduce educational disparities. For the external analysis, the overall average score was 0.99. Opportunities averaged 4.52, while obstacles averaged -4.44, indicating external opportunities for educational development to mitigate disparities. These indicate the following development strategies; SO1: Enhancing educational development strategies and structures to reduce disparities across all age groups. SO2: Distributing educational opportunities in remote areas through comprehensive and equitable human resource management. SO3: Increasing the efficiency of diverse learning resources using local potentials as shown in Figure 4.
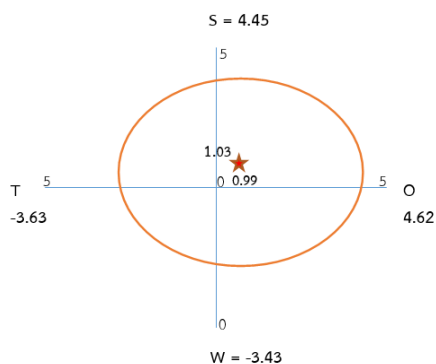
Figure 4. Current position of educational development in Chiang Rai Province

Objective 3: Develop a local cooperation mechanism to reduce educational disparities in Chiang Rai Province. It utilizes structured goal-setting through the CATWOE framework, describing the following components:

Customers (C): Including students from low-income families or rural areas lacking educational resources, concerned parents about their children's educational future, and impacted communities facing potential social and economic issues.

Actors (A): Comprising teachers, school administrators crucial in managing and improving education quality, the Ministry of Education responsible for policy-making and budget allocation, and NGOs aiding education in resource-limited areas.

Transformation Process (T): Involves upgrading education curricula to meet labor market demands, promoting equal resource allocation and skill development across regions, and enhancing teacher training and skills to improve teaching and management.

World View (W): Emphasizing beliefs in educational equality, ensuring everyone's right to quality education regardless of economic or social background, and viewing education as an investment for the country's future prosperity.

Owner (O): Involving strategic government bodies like the Ministry of Education, Provincial Educational Committees, and networks managing education in Chiang Rai Province.

This approach drives strategies aligned with three related strategic plans: Border Area Educational Development Strategy, Special Economic Zone Educational Development Strategy, and Chiang Rai Province Educational Development Strategy.

The Provincial Education Office initiated a framework, drafted by the Strategic Management Committee, which received approval from the Provincial Education Committee and Chiang Rai's Governor. Chulaphonphatthana Ratchawitthayalai School was designated to lead collaborative planning and project development. A focus was placed on enhancing teacher and administrator skills in Mae Sai, Chiang Saen, and Chiang Khong, selecting schools based on developmental needs to meet international standards like PISA. Project proposals were then prepared to secure budget allocations from relevant agencies to support these initiatives.

5. Discussion

This research highlighted the complexity of educational inequality as a multidimensional issue. Disparities in access to educational resources and outcomes among different groups often reflect broader social and economic inequalities. Countries with more equitable education systems, according to the Organization for Economic Co-operation and Development tend to experience greater economic and social development. Schools that foster inclusive environments and encourage broad participation can help promote learning and skill development among students at high risk of educational inequality. (The Organization for Economic Co-operation and Development (OECD), 2018)

The study identified significant deficiencies in promoting collaboration and achieving results in education within Chiang Rai Province. Educational agencies, including the Provincial Office of Education, were found to lack substantial cooperation, receiving low ratings for their collaborative efforts. This lack of collaboration is partly due to the recent establishment of these agencies under Article 44 of the Thai Constitution during Prime Minister Prayut Chan-o-cha's administration, which initially limited inter-agency relationships. As a result, enhancing collaboration among educational units is crucial to meet provincial governance indicators and extend operations beyond primary education bodies like the Basic Education Commission, following strategies outlined in the Ministry of Education's national educational strategy (Inrak, 2022). Strengthening localized educational management is also key to improving future educational quality and addressing disparities (Satyawatee, 2022).

The analysis further revealed that collaboration between educational management entities, including the Chiang Rai Provincial Education Office, is lacking when it comes to promoting public policy aimed at enhancing well-being across physical, mental, intellectual, and social dimensions. Although these agencies play a role in policy implementation, they have not effectively worked together to improve public health, sports development, or educational awareness in areas such as language, mathematics, the arts, and physical activity. Budget allocations, which are primarily managed centrally without adequate provincial distribution, have perpetuated disparities in access to quality education and healthcare services, exacerbating socio-economic inequalities. Therefore, integrating diverse stakeholders into educational planning and management is essential for effectively addressing these disparities.

To address educational disparities in Chiang Rai Province, strategies focus on enhancing service delivery and personnel capabilities to facilitate diverse and equitable learning experiences. This includes using information technology systems

and incorporating vocational skill development that supports local professions. The primary goal is to ensure equal educational opportunities in remote areas through effective and equitable human resource management.

The mechanism for local cooperation involves a variety of stakeholders, including students, parents, communities, educators, administrators, and both private and government organizations. Coordination is facilitated by the Provincial Education Committee and the Strategic Administrative Management Committee, as well as other state and private entities. This effort is governed by Directive No. 10/2016 and Directive No. 11/2016 from the National Committee for Peace and Order, which focuses on regional education reform under the Ministry of Education. Establishing effective networks and administrative systems is a significant challenge, as these units are relatively new and require integrated governance. The Chiang Rai Provincial Education Office initially plays a supportive rather than managing role. However, efforts are being made to enhance educational strategies, including aligning budgets with the Ministry of Education and coordinating vocational skills development with the Provincial Labor Office to benefit remote and border communities.

Educational inequality persists as a global challenge, with disparities in access, quality, and outcomes often reflecting broader societal inequities. Area-based cooperation offers a promising solution by leveraging local resources, expertise, and partnerships to create more equitable educational opportunities. Through collaboration among government agencies, schools, and communities, this approach can address the root causes of educational disparities, promote targeted interventions, and ultimately create more inclusive learning environments.

6. Knowledge of Research

The research findings have been adapted for implementation, with the Provincial Education Office driving the process under the Strategic Administrative Management Committee. A draft operational framework was approved by the Provincial Education Committee, chaired by Chiang Rai's Governor. Chulaphon Ratchawitthayalai School was designated to lead project development, focusing on teacher and administrator development in Mae Sai, Chiang Saen, and Chiang Khong, aligning with international standards like PISA. A project proposal was prepared to secure funding from relevant agencies, and the final step involves implementing the previously analyzed solutions to achieve these goals.
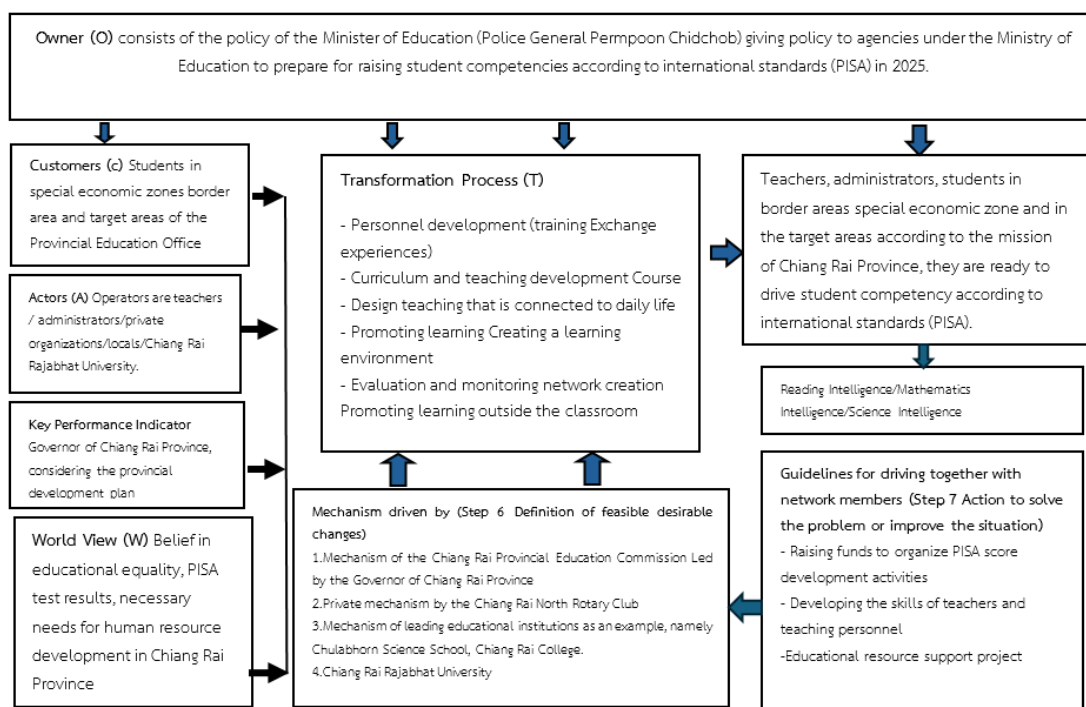
Owner (O) consists of the policy of the Minister of Education (Police General Permpoon Chidchob) giving policy to agencies under the Ministry of Education to prepare for raising student competencies according to international standards (PISA) in 2025.

Customers (c) Students in special economic zones border area and target areas of the Provincial Education Office

Actors (A) Operators are teachers / administrators/private organizations/locals/Chiang Rai Rajabhat University.

Key Performance Indicator Governor of Chiang Rai Province, considering the provincial development plan

World View (W) Belief in educational equality, PISA test results, necessary needs for human resource development in Chiang Rai Province

Transformation Process (T)

- Personnel development (training Exchange experiences)
- Curriculum and teaching development Course
- Design teaching that is connected to daily life
- Promoting learning Creating a learning environment
- Evaluation and monitoring network creation Promoting learning outside the classroom

Mechanism driven by (Step 6 Definition of feasible desirable changes)
1. Mechanism of the Chiang Rai Provincial Education Commission Led by the Governor of Chiang Rai Province
2. Private mechanism by the Chiang Rai North Rotary Club
3. Mechanism of leading educational institutions as an example, namely Chulabhorn Science School, Chiang Rai College.
4. Chiang Rai Rajabhat University

Teachers, administrators, students in border areas special economic zone and in the target areas according to the mission of Chiang Rai Province, they are ready to drive student competency according to international standards (PISA).

Reading Intelligence/Mathematics Intelligence/Science Intelligence

Guidelines for driving together with network members (Step 7 Action to solve the problem or improve the situation)
- Raising funds to organize PISA score development activities
- Developing the skills of teachers and teaching personnel
- Educational resource support project

Figure 5. Collaborative mechanisms to reduce educational inequality in Chiang Rai Province

Efforts to enhance educational equity in Chiang Rai Province are driven by collaboration among key stakeholders. The Provincial Education Office, working with the Strategic Administrative Management Committee and supported by the Provincial Governor and Education Committee, has implemented frameworks to reduce educational disparities. Central to this initiative is Chulaphon Ratchawitthayalai School, designated as the lead institution to coordinate planning and execution. Targeted districts, including Mae Sai, Chiang Saen, and Chiang Khong, align local educational practices with global standards like PISA, with long-term project proposals seeking sustainable funding.

A multifaceted approach is essential to address educational inequality, integrating community involvement, policy frameworks, leadership, and innovation. Community schools exemplify this model by positioning schools as hubs for education and social services, addressing students' and families' holistic needs. Parental involvement and public-private partnerships enhance resources and ensure locally tailored educational strategies.

Robust policy frameworks provide the foundation for sustainable efforts. Policies promoting the integration of education, health, and social services, supported by equitable funding models, are critical. Continuous monitoring and evaluation ensure these strategies remain effective and adaptable. Effective school leadership plays a pivotal role in fostering inclusive cultures and shared responsibilities. Leaders adopting collaborative and transformational styles engage teachers, students, and communities in decision-making, while professional development and data-driven strategies empower educators to implement innovative teaching practices.

Technology and innovation also bridge educational gaps. E-learning platforms, digital literacy programs, and approaches like blended learning and flipped classrooms cater to diverse learning needs, particularly in remote areas.

Collaborative technologies strengthen communication among educators, students, and parents, fostering cooperation.

Socioeconomic support programs are vital in addressing root causes of inequality. Initiatives such as school meals, after-school activities, family support services, and mentoring ensure students' physical and emotional well-being, creating stable environments for academic success.

In conclusion, achieving educational equity in Chiang Rai requires holistic strategies integrating community engagement, strong policies, effective leadership, technological innovation, and socioeconomic support. These synergistic efforts can provide equal opportunities for all students, fostering sustainable and meaningful progress.

7. Suggestion

1. Suggestion for Further Research

Future research should focus on longitudinal impact studies to evaluate the long-term effectiveness of spatial cooperation mechanisms on educational inequality in Chiang Rai Province. Comparative analysis with similar regions can reveal best practices and innovative strategies. Additionally, exploring technological integration in education, particularly in remote areas, and investigating inclusive education strategies for marginalized groups will provide insights into bridging educational gaps. Community-based educational models involving local stakeholders and assessing the impact of current education policies will further enhance understanding and improve educational outcomes.

2. Suggestion for Policy Implementation

Effective policy implementation requires developing comprehensive education policies tailored to the unique needs of various regions in Chiang Rai Province, enhancing collaboration among stakeholders, and investing in early childhood education. Strengthening technological infrastructure in schools and

implementing targeted support programs for struggling students are essential steps. Regular monitoring and evaluation of policy outcomes, guided by data-driven insights, will ensure that policies effectively address educational disparities. Promoting lifelong learning and skills development will also support ongoing personal and professional growth, particularly for adults and out-of-school youth.

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