

# EDUCATION AS A CATALYST FOR CHANGE: A STUDY OF INNOVATION AND INTERNATIONAL COOPERATION IN BORDER REGIONS

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**ABSTRACT** Education has emerged as a powerful transformative force in border regions, where geopolitical, cultural, and economic boundaries often create complex challenges. This study explores the potential of education as a catalyst for innovation and international cooperation, examining how educational initiatives can bridge divides, foster mutual understanding, and drive sustainable development in border areas. Through a comprehensive qualitative methods approach, the research investigates innovative educational programs across border regions, analyzing their impact on cross-border collaboration, social integration, and economic opportunities. The study draws on extensive fieldwork, interviews with educational leaders, policymakers, and community stakeholders, the outcomes of collaborative educational interventions. This research finds that the concrete mechanisms for designing educational programs that promote cross-border cooperation and demonstrates the potential of education as a soft diplomacy and conflict mitigation tool.

**KEYWORDS:** *Cross Border collaboration, Education, International cooperation*

## 1. INTRODUCTION

Border regions represent complex socio-political landscapes where geographical boundaries intersect with intricate cultural, economic, and political dynamics. Political boundaries that frequently split communities apart, limit mobility, and obstruct normal social and economic exchanges have historically defined border zones (Dyantiy, N., Ncanywa, T., & Nguza-Mduba, B. 2024). Conventional border management techniques have tended to ignore the transformative potential of human-centered, cooperative initiatives in favor of security and territorial integrity. More sophisticated methods of comprehending and controlling border interactions are required by the changing global environment. Traditional conceptions of borders as immobile, impermeable

barriers have been seriously challenged by globalization, technological development, and more mobility. In this situation, education becomes a potent tool for rethinking and rebuilding international relations.

Both economic development and labor preparedness depend heavily on education and skill levels. There are several systems in place to classify these levels, which have an impact on both individual career choices and the dynamics of the labor market as a whole. These areas present both possible points of contention and special chances for creative cooperation, with education emerging as a vital tool for overcoming barriers and promoting understanding amongst people. Education is essential for promoting creativity and global collaboration, especially in border areas where various cultures and economic systems converge (Pal, S. 2023).

Due to the particular difficulties these regions experience, cooperative strategies that make use of educational resources are required in order to promote development and improve quality of life. Through institutional capacities and strategic leadership, universities serve as change agents in vulnerable areas, fostering local innovation and development (Oni, M.B. 2022). Education lays the groundwork for innovation by giving people the abilities and information they need to tackle regional problems. In cross-border settings, educational institutions can promote collaborative research: Universities and research centers can work together on projects that address shared issues, like environmental sustainability or economic development, fostering an innovative culture. Facilitate Knowledge Transfer: By encouraging exchanges between institutions across borders, education can help share best practices and innovative solutions tailored to specific regional needs (Gao, W. 2020)

Encourage Workforce Development by preparing locals for jobs that emerge from emerging industries or cross-border economic activity, customized educational programs can improve employability and economic resilience. By encouraging cooperation and knowledge sharing, universities in places like Peru help lessen issues like conflict and a lack of an innovative culture (Close, T.A., & Engel, S. 2021). In border regions, education does act as a catalyst for change by promoting international cooperation and creativity. Stakeholders may foster regional development, raise living standards, and maximize cross-border exchanges by tackling the particular difficulties these regions face through cooperative educational programs. For these initiatives to be sustained and long-term benefits to be realized, education spending must continue.

Cross-border regional innovation systems (CBRIS) can be facilitated by redefining borders as interfaces for innovation rather than as obstacles (Lopes, G. C. D., et al 2024). The fluidity of boundaries facilitates the sharing of resources and ideas, which can result in increased collaboration and innovation among adjacent areas (Cappellano et al., 2022). Educational equity is sought by

stakeholders working together in border communities like Palomas and Deming, with a focus on a shared community viewpoint (Kew & Fellus, 2022). In border regions, education is a crucial change agent that promotes creativity and global collaboration. The incorporation of international educational programs fosters cooperation between various stakeholders, which results in notable breakthroughs in entrepreneurship and technology. By pooling resources and expertise, this multipronged strategy not only tackles regional issues but also advances sustainable development.

Instead of serving as obstacles, borders can serve as interfaces for innovation, promoting dynamic interconnections between different regions (Cappellano et al., 2022). By encouraging cooperation and experimentation, cross-border innovation hubs (DIHs) improve service delivery and sustainability for small and medium-sized businesses (SMEs) (Volpe et al., 2021). International Cooperation in the Field of Education Cross-border collaborative projects, including those in engineering technology, expose students to intercultural and multidisciplinary settings, enhancing their educational experience (Gonzalez-Rodriguez et al., 2020).

In border regions, raising educational and skill levels is essential to improving the standard of living and employment prospects for locals. Numerous studies draw attention to the particular difficulties these areas face and offer specialized methods to deal with them. Many border regions lack proper educational infrastructure, such as enough classrooms, schools, and educational resources. Due to a lack of infrastructure, students frequently have to travel great distances to receive an education, which may discourage participation and attendance. There is often a shortage of qualified teachers willing to work in remote border areas. This issue is compounded by limited professional development opportunities and inadequate support for educators. Low community involvement in educational initiatives can hinder the effectiveness of programs aimed at improving local education.

Initiatives like ConTex support and fund innovative projects that tackle real-world problems, fostering binational academic research (Gonzalez-Rodriguez et al., 2020). Opportunities and Difficulties Cross-border educational projects have many advantages, but they often have drawbacks, including logistical difficulties and cultural barriers. Addressing these issues is crucial for maximizing the potential of international cooperation in education and innovation (Zhao et al., 2019).

Even while the value of education in international collaboration is becoming more widely acknowledged, there is still a dearth of thorough, empirical studies looking at the ways in which educational programs might methodically promote cross-border development and understanding. Studies that are now available are frequently disjointed and concentrate on discrete interventions rather than offering a comprehensive picture of the transformative potential of educational tactics.

In order to fill this important information vacuum, our study investigates the following fundamental queries how can educational programs serve as catalysts for innovation and cooperation in border regions?

## **2. METHOD**

For this research, a qualitative case study design is appropriate since it enables a thorough examination of the intricate relationships that exist between innovation, education, and international collaboration in particular border locations. A thorough grasp of the historical events, personal experiences, and contextual elements that influence educational activities in these fields is made possible by this method. Interview important stakeholders in-depth, including: Education administrators and policymakers Teachers and administrators Parents and students NGOs' and international organizations' representatives. Local leaders in the community. To obtain firsthand knowledge of how educational initiatives are implemented and how they affect the local population, observe educational institutions, community centers, and other pertinent locations.

## **3. RESULT AND DISCUSSION**

### **3.1 Education and Skill Levels**

In the backdrop of any countries in the world such as in Asia changing workforce, education is very important for raising skill levels. The focus on education and vocational training is crucial for economic growth and competitiveness as the nation gets ready to become the youngest in the world. Important facets of how education aids in skill development are described in the sections that follow. Education is a fundamental instrument for developing skills, allowing people to think critically and come up with new ideas (Singh, 2015).

The shift from informal to formal economies requires a workforce with a high level of education in order to promote sustainable development (Singh, 2015). Vocational Education and Training (VET) According to Chouksey and Dubey (2016), vocational education is essential for resolving skill gaps and mismatches in the labor market. Industry cooperation to match training with market demands is one of the initiatives for quality assurance in VET (Chouksey & Dubey, 2016).

Formal education in border areas began with the founding of the Border Patrol Police (BPP) School in 1956 and has seen significant change over the years (Kaewkumkong, 2019). The goal of recent programs like the Buffer School program is to improve cooperation and educational quality within the ASEAN framework (Kaewkumkong, 2019). Due to financial strains, many migrant children continue to skip school, prioritizing income over education (Bird, 2023).

Access to possibilities for career development and vocational training is restricted due to migrants' precarious position (Mun, 2023). Inadequate resources and teacher readiness pose problems for bilingual education programs, such those in Mae Hong Son ("A Survey on Teachers' Attitudes Towards Bilingual Education (Thai-Tai Yai based) for Border Schools in Mae Hong Son, Thailand", 2023).

In Thailand's border regions, there are notable differences in education and skill levels, especially amongst ethnic groups, which are influenced by a number of socioeconomic variables. Basic education has advanced, but problems still exist, especially in rural and border areas where the quality of education is frequently lowered. Important facets of this problem are described in the sections that follow. Government initiatives seek to raise the standard of vocational education while offering prospects for advancement in the future (Singh, 2022).

Significant obstacles to education exist in border regions, such as inadequate facilities and a shortage of trained teachers, which have a detrimental effect on learning and proficiency levels. These problems must be addressed by effective policies in order to raise educational quality and equity for nearby areas. Compared to Sarawak, education and skill levels are far lower in the Indonesia-Malaysia border region, and Indonesian schools lack proper infrastructure and equipment. Due to this discrepancy, many border dwellers choose to attend Sarawakian schools, which has an effect on their socioeconomic circumstances. Many sociopolitical circumstances and educational policies influence the education and skill levels in the border region of Thailand, especially among migrant communities.

Because of the region's particular circumstances, which are impacted by the presence of migrants and refugees, specialized educational strategies are required to meet the requirements of these groups. Important facets of education and proficiency levels in this field are described in the sections that follow. Growing involvement of the community in border area education. In border areas, increasing community involvement in education is crucial to raising academic standards and creating a positive learning atmosphere. The following are some methods to successfully boost this involvement.

Inequalities in Education Low learning results are caused by a lack of educational resources for rural kids, particularly those living near borders. For example, according to the PISA 2012 evaluation, one-third of Thai 15-year-olds were categorized as functionally illiterate (Lathapipat, 2018). Provinces differ greatly in the quality of education, with the lowest quality seen in distant locations like Yala and Mae Hong Son (Fry et al., 2018). Ethnic Group Education Although integration of local lifestyles into curricula is emphasized in education plans for ethnic groups in border and highland areas, implementation is still uneven. One example of how education can be

used to draw boundaries and reflect larger sociopolitical dynamics is the Karen school system at the Thai-Burmese border (Oh et al., 2021).

**Proficiency of Teachers. Infrastructure Development:** Governments are urged to spend money on constructing and remodeling educational facilities in border regions. Initiatives such as "Sekolah Tapal Batas" seek to build schools with sufficient infrastructure so that kids can receive a top-notch education near their homes. **Teachers' rewards:** Programs like "Guru Garis Depan" offer rewards to educators who move to border regions. This covers monetary rewards and expert instruction meant to raise the caliber of instruction. **Community Engagement:** Through teacher training, infrastructure development, and community cooperation, initiatives like "Desa Pintar" aim to improve the quality of education. These kinds of programs encourage locals to feel a feeling of pride in their educational establishments. A complex strategy including infrastructure investment, teacher incentives, community involvement, holistic educational methodologies, and efficient monitoring mechanisms is needed to address the issues of education and skill levels in border communities. Governments may improve educational access and quality by putting these options into practice, which will eventually support national resilience and regional growth.

**Building Partnerships with Local Organizations** Collaborate with local NGOs, community groups, and educational institutions to create programs that engage community members in educational initiatives. These partnerships can facilitate resource sharing and mobilize volunteers for tutoring and mentoring programs, as seen in various successful projects across border regions. **Community Awareness Campaigns** Implement awareness campaigns that highlight the importance of education for community development. By organizing workshops, seminars, and informational sessions, communities can be educated about the long-term benefits of education, fostering a culture that values learning.

**Involving Parents in School Activities** Encourage parental involvement by inviting them to participate in school governance, events, and decision-making processes. This can be achieved through regular meetings and open forums where parents can voice their concerns and suggestions regarding their children's education. **Training Local Educators and Volunteers** Provide training for local community members to become educators or teaching assistants. This not only increases the number of available teachers but also empowers residents by giving them a stake in the educational process. Training programs can focus on pedagogical skills, curriculum development, and classroom management.

**Creating Flexible Educational Programs** Develop educational programs that accommodate the unique needs of border communities, such as offering classes at different times to suit working parents or incorporating local languages and cultures into the curriculum. This inclusivity can

encourage more families to engage with educational institutions, Utilizing Technology for Communication Leverage technology to enhance communication between schools and communities. Platforms such as social media, community apps, or newsletters can keep families informed about school activities, achievements, and opportunities for involvement. Organizing Community Events Focused on Education Host events such as fairs, cultural festivals, or competitions that promote educational themes and encourage family participation.

These events can serve as platforms for showcasing student achievements and fostering a sense of pride in local education 2. Establish feedback mechanisms where community members can express their opinions about educational programs and policies. Surveys, suggestion boxes, or community meetings can help gather valuable insights that inform future educational strategies 14. Increasing community participation in education within border areas requires a multifaceted approach that involves building partnerships, raising awareness, engaging parents, training local educators, and utilizing technology. By fostering a collaborative environment where community members feel valued and involved, educational outcomes can significantly improve, leading to enhanced socio-economic development in these regions.

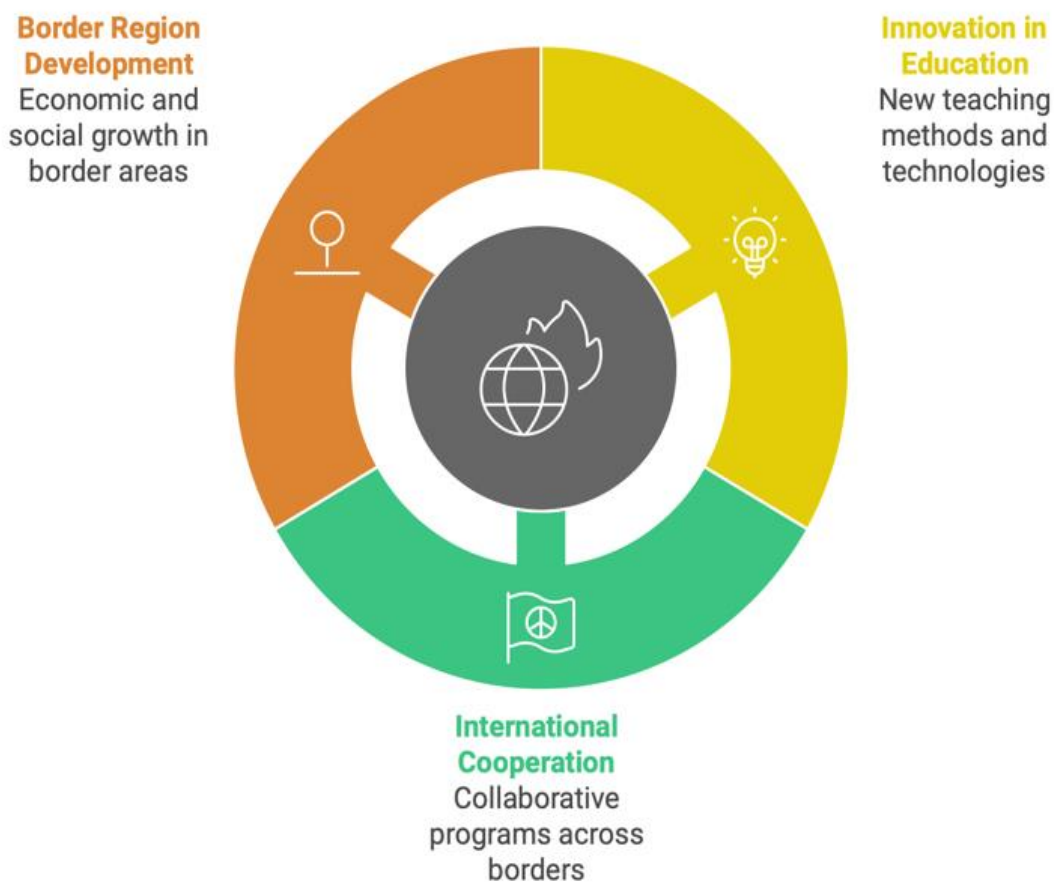
### **3.2 Diversity and Complementarity**

In education, diversity and complementarity are two potent ideas that can greatly raise educational standards. These ideas have the potential to create a more effective, inclusive, and engaging learning environment in educational settings.. Student diversity encompasses the vast array of distinctions among students, such as financial status, cultural background, learning preferences, and aptitudes. Diverse viewpoints, cultural backgrounds, and historical periods are all incorporated into a curriculum. A range of learning demands and styles can be accommodated by various teaching techniques and approaches. In education, complementarity approaches to provide a more thorough educational experience, combine traditional classroom instruction with online learning, experiential learning, or project-based learning. Teachers, parents, and community members can all play complementary roles in promoting the growth and learning of their students.

Complementary disciplines: Students can better develop links between many fields of knowledge by incorporating disciplines like science, history, and art. The advantages of complementarity and diversity in the classroom, improved learning outcomes: Students who attend classes in a diverse and complimentary setting are more likely to think critically, solve problems, and perform better academically. Ways to Encourage Diversity and Harmony in the Classroom Establish Inclusive Classrooms: Encourage a friendly, civil setting where each student is treated with respect and feels appreciated. Make Use of Various Teaching Resources: Include resources

that reflect a range of viewpoints, experiences, and cultures. Use Different Teaching Approaches: Utilize a combination of conventional and creative teaching techniques to accommodate various learning preferences. Promote cooperation: Encourage group projects and peer education to help pupils become more diverse and complementary. Educator Professional Development: Give educators instruction on inclusion, equity, and diversity. All students can achieve their full potential in more efficient and fair learning settings created by educators who embrace variety and complementarity (Diagram 1.1). Increased Engagement: When students see themselves represented in the curriculum and given the chance to learn in various ways, they are more likely to be engaged. Enhancement of Social Skills: Complementarity and diversity can promote tolerance, empathy, and respect for other people. Future-Readiness: A varied and supplemental education equips pupils for a world that is complicated and always evolving.

Diagram 1.1. Education Role in Border Regions



Source: Research Data 2024

#### **4. CONCLUSION**

Overall, the delivery of the community empowerment was successful raised educational awareness for teachers and participants understood important issues in character-based learning, health, and technology. Strengthened cross-cultural and religious networks by through discussions and training, collaboration between diverse parties was established. Inspiring and motivating for Teachers and participants are encouraged to apply the knowledge gained in their respective environments to improve the quality of education and life. The programme demonstrates sustainable impact in building a better education that is responsive to global challenges. Enhancing quality of life, economic development, poverty alleviation, employment opportunities.

Emphasizes cooperation with industries and businesses in vocational education such as in Thailand's strategy for leveraging education to spur transformation in its border regions emphasizes the value of creativity and cross-border collaboration. The nation seeks to solve educational inequities while fostering regional stability and cultural understanding through concepts such as the Pattani Unique Area Model, Buffer School Program, and Education Sandbox Initiative. To promote sustainable development in Thailand's southern border provinces, more funding must be allocated to these projects.

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#### **CONFLICT OF INTERESTS**

Declare any conflict of interests, such as any financial, professional, or personal relationships that are relevant to the submitted work. This can include the name of a funding source and a description of their role in the design of the study, data collection and analysis, writing of the article, and/or decision to submit to IJCCH; whether they serve or have previously served on IJCCH's editorial board; and/or whether they work or have worked for an organization that may benefit from the publication of the article.

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