

Exploring the Revitalization School School-Level Geography Education in Nepal

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Abstract

This study explores the revitalization of school-level geography education in Nepal. Revitalization in school-level geography education is a strategy to improve the relevance, engagement, and effectiveness of geography education in addressing contemporary challenges. Geography education in secondary schools in Nepal plays an important role in promoting spatial understanding and reasoning. However, it remains marginalized within the secondary level, due to lack of dedicated discipline status, modern teaching methods, and institutional support. This study employs a qualitative document analysis to examine the current status, challenges, and opportunities for reform in secondary-level geography education. Major issues include outdated curricula and textbooks, insufficient teacher training, limited utilization of geospatial technologies, and evaluation techniques. The paper presents strategic directions for strengthening the geography education, including curriculum and textbooks reform, teacher professional development, integration of geospatial technologies, field-based and experiential learning, improved assessment methods, and enhanced education policy. The findings also highlight the need for a national strategy that strengthens geography education at the school level to meet demands and support national priorities.

Keywords: Geography education, experiential learning, geospatial technologies, teacher training, spatial reasoning.

Introduction

Geography is one of the oldest disciplines that bridges the physical and human worlds. It is the study of the environment and man's changing relationship (Subedi & Poudel, 2005). The first recorded use of the term geography is attributed to Eratosthenes, a

Greek scholar of the third century B.C. (Demko, 1992). Geography has changed its approach and scope evolving into one of the most important disciplines, encompassing both physical and socio-economic dimensions. The relationship between humans and the environment has evolved since the earliest settlements. From the mid-18th century, the geocratic or the environmental deterministic era gave way to the weocratic or the possibilist era, and the 20th century is also significant for the emergence of the neocratic or neo-deterministic concept in geography (Taylor, 1967).

The history of geographical thought suggests that geography is a paradigmatic science. Harvey & Holly (1981) pointed out five paradigms in geography: Ratzel with the paradigm of determinism; Vidal with that of possibilism; Sauer with cultural landscape; Hartshorne with areal differentiation or chorological paradigm; and Schafer with spatial organization paradigm are important in geographical history. During the 1950s and 1960s, the model-based paradigm was popular. During the 1970s, behavioral paradigms with several 'isms' flourished in geography. During the 1980s, the paradigm of the human environment system became popular in geography (Koirala, 2009). In the twenty-first century, new paradigms in geography combine multidisciplinary methods, critical viewpoints, and technological advancements.

Geography education lies at the intersection of geographic content knowledge and pedagogical practice. It develops the ability of decisions in the process of development. It helps to explain historical events, political processes, spatial relationships, cultural development, and scientific processes. Likewise, it is relevant to our society and environment (Gerber, 2003). The International Charter on Geographical Education has identified knowledge, skills, attitudes, and values that the learners develop through its study and practices. Geographical education is indispensable to the development of responsible and active citizens in the present and future world (IGU Commission on Geographical Education, 2016).

Despite its importance, geography education often receives insufficient emphasis within school curricula in Nepal. The discipline was organized after the School Leaving Certificate Examination Board was established in 1934, and geography was included in the school-level curricula (Jnawali, 1995). Over the last ninety years, geography at the school level has gone through several ups and downs. With the implementation of the National Education System Plan in 1972, the identity of geography merged with social studies later, when the total paper for SLC was limited to the optional category (Subedi & Joshi, 1997).

The National Curriculum Framework (2019) marks a significant transformation in school education in Nepal. Geography is included in two ways in the National Curriculum Frameworks. At the basic and secondary level, geography is integrated into the interdisciplinary subject of social studies curriculum. It is also taught as a separate optional subject in the secondary school level curriculum. Geography is not a popular subject among learners in Nepal. The result is the declining number of geography learners in the secondary school classrooms. Existing studies often overlooked the practical challenges of geography teachers and students at the secondary level. The main purpose of this study is to find out the revitalization of the secondary-level geography education in Nepal through curriculum reform, pedagogical innovation, and teacher preparation to enhance its relevance, practicality, and student engagement.

Methods and Materials

This study employs a qualitative research paradigm, utilizing descriptive approaches. The study is based on document analysis of existing literature, curricula, textbooks, policy documents, and research reports to assess the current status, challenges, and future directions of geography education in Nepal. The documents selected for this study were purposively sampled based on their relevance to the status, challenges, and strategic directions of geography education in Nepal. The data sources include scholarly publications, government policy reports, curriculum guidelines issued by the CDC, and empirical findings from national educational assessments. A descriptive approach was employed to synthesize data from multiple sources. This methodological approach is suitable for an understanding of the current practices and future needs of geography education within secondary schools in Nepal. The themes were divided into two groups: **status and challenges of geography education, and** future directions for geography education in Nepal. After collecting data, an analysis of the data acquired was made through descriptive approaches of the collected data.

Results and Discussion

Status and challenges of geography education in Nepal

Secondary-level geography education in Nepal faces numerous challenges, including outdated curricula, poorly updated textbooks, a shortage of trained teachers, limited use of geospatial technology, and insufficient field-based and experiential learning opportunities.

Geography curriculum and textbooks

According to (Glatthorn, 1987), The curriculum is the plans made for guiding learning in schools, usually represented in retrievable documents of several levels of generality,

and the actualization of those plans in the classroom, as experienced by the learners and as recorded by an observer; those experiences take place in a learning environment which also influence what is learned (Cited by Print, 1988, P. 8). In Nepal, geographic concepts are taught as part of the social studies curriculum up to the school education and as an optional subject in Grades 9 and 12. The curriculum emphasizes the physical, human, practical, and geographical aspects of Nepal, but tends to be overly theoretical. The curriculum does not adequately promote hands-on learning through fieldwork, the use of spatial technologies, which are globally recognized as essential tools in geography education. Geography textbooks are often outdated, lacking context-specific examples and global issues such as climate change, migration, and urbanization (MoEST, 2019). The geography curriculum is overloaded and provides insufficient pedagogical support, hindering student engagement and the development of essential geographic competencies (Dhakal, 2021). Nepal's geography curriculum is overly theoretical, outdated, and lacks practical methods, technologies, and support, limiting student engagement and competency development.

Teacher preparation and professional development

One of the many challenges in teacher education programs in developing countries is the production of quality teachers. A significant challenge in Nepal is the shortage of qualified geography teachers for secondary schools. Many secondary schools rely on other subject-specialized teachers without training. As a result, their understanding of core geographic concepts, spatial reasoning, and modern pedagogical strategies remains limited. Pre-service teacher education programs in universities do not offer geography as a focused subject. In-service training opportunities are also rare, and when they are available, they tend to be short-term and lack practical components. According to Sharma (2020), this deficiency in professional development directly affects the quality of instruction, student engagement, and assessment practices in geography. There is practice handling the social studies by a non-geography graduate teacher who has no basic knowledge about teaching techniques of geography. Lack of trained geography teachers and extra requirements like instruments, resources, and school management discourage students from offering geography, and students themselves do not choose geography as an optional subject due to the reason of practical courses with some cartographic works (Pokhrel, 2013). Shortage of qualified and well-trained teachers, compounded by limited professional development, significantly undermines the delivery of effective, inquiry-based geography education in secondary schools. Nepal faces a severe shortage of trained geography teachers, weak professional development, and resource gaps, undermining effective, inquiry-based geography education.

Teaching strategies

Geography teaching methods in secondary schools are still predominantly traditional, relying heavily on lecture-based instruction and textbook memorization. Classroom practices in geography tend to be textbook-oriented with minimal use of participatory methods, such as fieldwork and project-based learning. Geospatial technologies such as GIS, GPS, and remote sensing are largely absent from classroom instruction due to infrastructure and technology, and teacher expertise (Dhakal, 2021). Promoting practical engagement through real-world case studies, debates, and place-based learning can enhance students' conceptual understanding and critical thinking skills (Lambert & Morgan, 2010). The absence of laboratory setups for geography further constrains experiential learning. Geography lessons are rarely integrated with local contexts, which could make the subject more relevant and engaging for students.

Assessment practices

Assessment practices in geography education in secondary schools remain largely summative and content-driven, with an overemphasis on rote memorization and factual recall in Nepal. Assessment systems often emphasize rote memorization rather than higher-order thinking skills. An effective geography evaluation should integrate formative and summative evaluations to capture students' abilities in spatial thinking, interpretation of geographic data, and solving real-world problems (Lambert & Morgan, 2010; Bednarz & Kemp, 2011). Practical components, including map reading or field-based reporting, are often excluded from formal examinations. Practical and formative assessments, essential for evaluating spatial reasoning, are rarely implemented (CERID, 2021). There is limited use of alternative assessment strategies such as portfolios, performance tasks, geographic investigations, or concept mapping at the school level in Nepal.

Future directions for geography education in Nepal

Future directions for geography education in Nepal include the utilization of geospatial technologies, encouraging fieldwork, and linking the curriculum with environmental and development concerns. Strengthening teacher training and making geography more career-focused will increase its relevance. Spatial thinking and digital technologies may modernize education and prepare students for global issues.

Curriculum modernization and reform

The geography curriculum should be reformed to ensure vertical alignment and conceptual progression across grades. Emerging global themes must be incorporated

to enhance the relevance of the curriculum. Aligning the geography curriculum with Sustainable Development Goals (SDGs) will also ensure that geographical knowledge supports national and global development agendas (IGU Commission on Geographical Education, 2016). The geography curriculum should be redesigned to be more job-oriented by integrating practical skills that align with employment opportunities in GIS, GPS, and remote sensing, regional planning, tourism management, and disaster risk reduction. The geography curriculum for secondary level should develop critical thinking, spatial reasoning, map reading, data analysis, geographic inquiry, and integration of geospatial technologies skills. The vertical arrangements of the geography curriculum are inevitable to be comprised in an ascending order from school to university. It is also important to relate geography with other subjects to make horizontal coherence. The geography curriculum must be aligned with the *National Curriculum Framework 2019*, emphasizing competency-based, skill-oriented, and experiential learning.

Integration of geospatial technologies

Integrating geospatial technology, such as Geographic Information Systems (GIS), Global Positioning Systems (GPS), and Remote sensing (RS) into geography teaching improves student learning. These geospatial technologies allow students to gather, analyze, and visualize spatial data, which promotes deeper spatial reasoning. Equipping schools with digital infrastructure and training teachers on these tools can bridge the gap between theory and real-world application (Milson & Alibrandi, 2008). A laboratory with geospatial technologies such as GIS, GPS, and remote sensing tools significantly enhances practical geography. To strengthen geography education in schools, the establishment of a geospatial laboratory in each secondary school is essential for promoting hands-on learning and job-oriented skills.

Teacher professional development

Jiang (2017) outlines three key aspects of TPD pertinent to teaching careers: (i) teacher training (that enhances classroom teaching skills and techniques); (ii) teacher education (that aims to refine teachers' theoretical knowledge; and (iii) teachers' development (that focuses on improving their practical teaching and cognitive levels). Effective teaching depends on teachers' competence and readiness. In Nepal, there is a need to strengthen both pre-service and in-service teacher education. Many teachers lack a specialized background in geography and have little exposure to new pedagogical approaches, GIS technology, and field-based methods (Sharma, 2020). Teacher education programs should incorporate training in content knowledge, spatial reasoning, inquiry-based teaching, digital technologies, and pedagogy. A systematic and continuous professional development

strategy designed for geography teachers can help increase capacity, enhance instructional quality, and connect classroom practices with national curriculum goals.

Promotion of fieldwork and experiential learning

Fieldwork and experiential learning are vital components of effective geography education. According to Biswas (2007), fieldwork is the distinctive feature of a geography degree. Field-based learning encourages active participation, fosters inquiry skills, and helps students connect theoretical knowledge with practical applications. Fieldwork is a method of teaching that involves selecting, observing, evaluating, and reporting information in a specific geographical area. It provides an opportunity for learners to experience spatial relationships, environmental processes, and cultural patterns. As Fairgrieve (1926) stated, geography is learned more by feet than by head, emphasizing the importance of experiential learning. Experiential learning practices can significantly improve student engagement and learning. Despite the significance of fieldwork and experiential learning, geography education in Nepal has been limited to textbook-centered instruction, with little utilization of field activities due to issues such as a lack of teacher training, inadequate financing, and limited institutional support.

Innovative assessment practices

Assessment practices in geography education in Nepal have focused on rote memorization and factual recall, with limited scope for evaluating students' spatial understanding and reasoning. It is necessary **to innovate** assessment practices that align with modern pedagogical goals. Future assessments should integrate formative and skills tests such as map interpretation, fieldwork reports, geographic investigations, and project-based learning. Measuring higher-order thinking and real-world application of geographic knowledge is essential. These approaches assess content knowledge of geography and also evaluate students' geographical skills in spatial reasoning. Implementation of such assessment practices requires teacher training, updated curriculum guidelines, and institutional support. Transforming geography assessment in Nepal is essential for making learning meaningful. These innovative assessments (e-portfolios, peer and self-assessment, simulation-based, formative assessments, AI-Driven, competency-based assessment, open-book exams, etc.) aim to measure not just the depth of content knowledge but also cognitive, emotional, and social skills, thereby providing a more comprehensive evaluation of a student's capabilities.

Policy and institutional support

Geography education in Nepal has received less attention through national education policies and institutional frameworks. The National Curriculum Framework (2019)

emphasizes learner-centered, skill-based education that includes geographical tools and field-based learning. However, implementation at the school level often falls short due to a lack of resources and institutional capacity. The Curriculum Development Centre (CDC) is responsible for designing secondary-level geography curricula, but there is a gap between policy intentions and classroom practices (CDC, 2019). To improve geography education in Nepal's schools, comprehensive and practical education policy reforms are needed, particularly in curriculum modernization and localization, teacher training and professional development, investment in teaching materials and infrastructure, and assessment policy. A national strategy for revitalizing geography education under the Ministry of Education, Science, and Technology is needed.

Conclusion

Geography education in Nepal plays an important role in developing spatial thinking and reasoning for school-level students. However, its current status faces obstacles, such as outdated curriculum, a shortage of trained teachers, insufficient technological utilization, and ineffective evaluation processes. These issues have contributed to the declining relevance of the subject in secondary education. This study emphasizes the need for significant reforms in geography education consistent with national interests and global norms. Curriculum reform, integration of geospatial technology, promotion of field-based and experiential learning, improved and innovative assessment methods, and sustained policy and institutional support are key strategic areas for the development of geography education in Nepal. A national commitment to revitalizing geography education will ensure the knowledge, values, and skills required for sustainable development and responsible citizenship in the twenty-first century. Future studies incorporating fieldwork and case studies would offer a more comprehensive view of the status and reform needs of geography education.

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