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Laxmi Sharma
Nepal Sanskrit University, One Year B.Ed. Program, Kathmandu, Nepal

Lekhnath Sharma
Central Department of Mathematics Education, Tribhuvan University, Kritipur, Nepal

Bishnu Khanal
Mahendra Ratna Campus Tahachal, Tribhuvan University, Kathmandu, Nepal

Dinesh Panthi
Nepal Sanskrit University, Valmeeki Campus, Kathmandu, Nepal

Correspondence Author;
Laxmi Sharma
Nepal Sanskrit University, One Year B.Ed. Program, Kathmandu, Nepal

Cultural and economic capital acquisition: Role of mathematics in sanskrit educational institutions in Nepal

Laxmi Sharma, Lekhnath Sharma, Bishnu Khanal and Dinesh Panthi

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Abstract
Sanskrit stream educational institutions of Nepal provide opportunities to learn spiritual learning. However, research on how these institutions create hidden gender and caste-based disparities in access to sociocultural and economic capital, remains unexplored. This study explores early engagement of students in income generating and ritualistic practices and analyses structural disparities through qualitative data from interviews, focus group discussions and observational insights. Findings reveal that Brahmin boys are benefitted from economic and sociocultural involvement in rituals whereas girls and non-Brahmin boys are symbolically included in cultural values but practically excluded from economic opportunities. Such exclusion limits social mobility, empowerment and educational equity. The study advocates integrating context-specific mathematics and life skills rooted in indigenous knowledge systems such as Chatussasthi Vidya to bridge gaps. Policy interventions should harmonize traditional values with contemporary frameworks of gender and caste justice, empowering all students to engage effectively in both economic and cultural spheres.

Keywords: Economic capital, educational equity, gender and caste disparity, Sanskrit education, sociocultural capital

1. Introduction

There is a concern of many parents that their children do not have even basic skills of their lives however, they study well, work hard, achieve better in the academic involvement. Students who are good in performing basic life skills can easily adjust in the society. Development of basic life skills and social skills helps students for the social development. Sound social adjustment, social skills, peer relations, emotional intelligence are the pillars of social development (Sharma *et al*., 2016) [25]. Such skills can be developed in the basic school ages with the joint efforts of home and school. Parents expect their children's better achievement in academic aspects. Along with this, obviously their expectations are interconnected with the better future aspirations such as: skilled career, esteemed professions and cultural prestige. A study by Zou *et al*. (2013) [32] found that most of the parents expected their children either to be skill-oriented professionals or do other managerial works like: business officers, owners, entrepreneurs. These aspirations are ultimately linked with the better economic and cultural capital of the students.

Education is considered as a high return investment. It is expected that quality education should provide children better qualification to get better job opportunities with the prestigious status in the society. Education can open the ways for learners to attain higher social standard (Sheng, 2017 [27]; Ding & Wu, 2023 [9]). The quality of education is ensured by the evaluation how students behave and act with the family and relatives at home, peers and teachers at school and people in the society. Many parents have their hidden expectations that their children would be more cultured, kind and socialized along with the better academic performances. More importantly, they would be skilled, qualified and capable for the better future and uplift their living standard. Ultimately, these expectations are intertwined with the cultural and economic capitals of the students.

Learning is the process of overall consciousness. It is expected children would learn basic life skills, social skills, spiritual skills to blossom their lives in the maximum potentials after getting education in school. "School is the place where children expand their knowledge and competencies and form their sense of intellectual efficacy essential for participating

effectively in the larger society" (Bussey & Bandura, 1999, p. 713) [2]. Period of school education is the foundation for students as they develop their self-confidence, skills and competencies required for their future career opportunities and for socially, culturally prestigious successful lives. Schools with tactfully designed curriculum and skilled-professional teachers can assist developing many such traits in students. In the context of Nepal, the National Curriculum Framework of 2076 B.S. has brought the new hope in education for some of the reasons. First, it has focused on project-based learning in many subjects. The project-based learning is supposed to increase interests of students towards learning. Next, it has insisted to implement the similar curriculum for all academic institutions (Government of Nepal, 2019) [13]. In this sense, all the Sanskrit based schools like: Gurukuls and Sanskrit schools are following the same curriculum as they are encouraged to be included in the mainstream education system. They are getting global funding in the name of 'mainstreaming' of conventional/religious education (Timilsina, 2023) [28].

Sanskrit Schools and Gurukuls are stablished to preserve Vedic cultures and Sanskrit traditions in Nepal. They are promoting cultural heritage along with the introduction of modern subjects like: Mathematics, English, Social studies, etc. after the introduction of new curriculum framework 2076 (Government of Nepal, 2019) [13]. Mathematics is taught as a compulsory subject (Pokhrel & Poudel, 2024) [18] but only a few schools have provisioned mathematics as an optional subject in these Sanskrit schools. Brahmin boys engage in ritualistic services like: karma Kanda from their early ages, particularly after Upanayana Sanskar. They often use mathematics in Vedic rituals, astrology and calculation of auspicious timings for any ritual performances in great amount (Poudel *et al*., 2023) [19]. Such mathematical knowledge assists them for both cultural and economic capital because it is very essential in ritualistic services. On the other hand, girls are preferred chanting Vedic mantras and expected to be cultured and strong ideal ladies in the society. Thus, girls' access to mathematical applications is seen to be limited. Similarly, non-Brahmin boys do not have similar exposure in cultural, economic and mathematical applications. This could create, continue or promote a gendered and caste-based disparity in knowledge transmission (Xu *et al*., 2006) [31] in these Sanskrit stream institutions.

Particularly, Brahmin parents have special attraction towards the Gurukuls and Sanskrit schools. However, students of various castes, ethnicities and religions including girls are also enrolled in Sanskrit based schools to learn Sanskrit education. Timilsina (2023) [28] pointed one of significant changes is, "Dalits, Janajati, and girls can now study at newly opened Gurukuls in different parts of Nepal" (p. 7). The main concern of this study is what are the causes of this attraction. How the Sanskrit curriculum has helped students to participate in early engagement in economic activities? Are the Sanskrit students being viewed as cultured and socially prestigious? Who are benefitted specially by earning economic and cultural capital in their school ages or beyond by developing themselves as human capital? Or does this curriculum maintain social justice or enhance social hierarchy? These are the questions triggering in the mind of researcher that led to this research work.

1.1 Short Glimpse of Sanskrit Education in the Context of Nepal

The education system of Nepal was initiated as the transmission of knowledge from generation to generation for thousands of years and was formally started from Gurukuls, Gombas, Bihar and Monasteries where pupils used to learn from their priests or gurus or monks. Sanskrit and Buddhist education based on religion were imparted before the modern education system (Formative Research Report, 2007) [12]. In the beginning, education was transmitted from Gurus in the residential learning centers, called Gurukul but different from the Gurukuls of the recent years. Learners used to learn ancient scriptures, philosophy and literatures under the supervision of Gurus at that time. Such practices were focused on preserving and spreading indigenous knowledge and cultural heritage (Pradhan, 2019) [17] based on Vedic learning and Hindu Traditions. The first Gurukul school was 'Matiyanini Sanskrit Pathshala' at Mahottari district of Nepal, established by Pandit Tasmaiya Baba in 1982 B. S. (Sharma, 2000) [24] initiated as a ritual school from the premises of Lakshman temple.

In ancient times, right to education was specially subjected to male Brahmin and Kshetris for Hindus; the Dalits, ethnic groups and females had no access to education for the centuries because education was designed only for the high caste Hindu males (Sharma, 2000) [24]. Jung Bahadur Rana had stablished the first formal school "Durbar High School" in 1854 where there was no access to general public. Initially it was reserved for the ruling class. A secondary level Sanskrit school named 'The Sanskrit Pradhan Pathashala', was open on the ground floor of the building of Durbar High School from 1877 and a hostel for Sanskrit students was begun at Teendhara in 1885 (Pradhan, 2019) [17]. Unfortunately, they were open only for Brahmins. Later, it was opened to public in 1902 and then after, the educated and interested people could send their children to Durbar School (Pradhan, 2019) [17].

Sanskrit philosophy is intertwined with social, cultural and religious aspects of most of the Nepali who use the ancient Sanskrit texts to perform their rituals from birth to death. Hence, Sanskrit education is the source of religions, tolerances, good morals, universal and spiritual knowledge (Government of Nepal, 2019) [13]. National curriculum framework, 2076 B.S. has proposed to include various life skills which are in the eastern philosophy including Sanskrit language and literature in the curriculum of school education.

'Gurukul' is a Sanskrit term that indicates the traditional system of receiving education from guru, a mentor who conveys spiritual and ethical guidance along with the knowledge and differs from the conventional concept of a teacher. The system has been practised since long in an informal way. Gurus themselves used to give certain knowledge to their pupils instead of formal curriculum. Gurukuls are established to revive Hindu philosophy. Sharma (2001) [26] has written that the foremost aim of Sanskrit education is for self-realization and for full-fledged development of eternal possibilities of human beings.

When the Government of Nepal opened pathways for mainstreaming Gurukuls and other religious schools, all Gurukuls were positive towards the mainstream education policy and were aware of their autonomy in curriculum design (Thapa *et al*., 2008) [29]. However, Gurukuls nowadays, provide religious and cultural knowledge along

with the formal education aligned with the national curriculum standards(Formative Research Project, 2007) [12]. According to Formative Research Project (2007) [12], there are 18 main disciplines (bidhas) included in the curriculum of the new Gurukuls. They are Vedas (Rigveda, Yajurveda, Samveda and Atharbaveda), Angas (Shiksha, Kalpa, Nirukta, Vyakaranas, Chanda and Jyotish), Upangas (Puran, Nyaya, Mimansa and Dharmashastra) and Upaved (Ayurved, Dhanuved, Gandharvaved and Arthasastra). Along with this, other subjects like Nepali, Mathematics, Social Studies and English of general education are being taught from grade four as optional subjects. All the courses of these subjects are based on the curriculum developed by the Curriculum Development Centre (Government of Nepal, 2019) [13] under the Department of Education.

1.2 Institutional Contexts and Their Role in Developing Human Capital

In the context of Nepal, Sanskrit schools and Gurukuls are run under the Sanskrit streamed school across the country. Many Sanskrit schools are open for all from diverse gender, caste, ethnicities, religion and geographical locations, however some of the schools have only Brahmin boys in the upper grades. Next, there are three types of Gurukuls: Kumar (Boy only) Gurukul, Kanya (Girl only) Gurukul and mixed (inclusive) Gurukul. These educational institutions prioritized girls and boys differently. In academic institutions, girls and boys are raised differently (Hadjar *et al*., 2014) [14]. Young adolescents significantly develop their gender attitudes and behaviors in educational institutions (Eccles *et al*., 1999 [11]; Sainz & Eccles, 2012) [20]. The overall potential impact of how students engage in particular activities; what skills they acquire and develop and how they dream their future, may contribute gender stereotypes and disparities in labor market outcomes (Sainz *et al*., 2021) [21]. Boys, particularly from Brahmin community after Upanayana ritual, in these Sanskrit stream schools, engage in ritualistic services (Karma Kanda) from their early ages as they can perform priesthood in Nepalese society where there are 81.2 percent Hindus (CBS, 2023) [8]. But girls are not engaged in such services as there is rare convention of female priesthood in the society. Timilsina (2023) [28] claimed the discriminative mind set as a major obstacle for Neo- Sanskritization process with the differential evidences of Kanya Gurukuls and Kumar Gurukuls. However, he expected production of human resources through 'professional career progression' (p. 22) in the Kanya Gurukuls. In his analysis, all the students including girls and non-Brahmin boys might have future prospects in teaching field as a teacher of Nepali, Sanskrit and Social studies besides being a priest and can peruse archaeological, cultural, historical and comparative religious studies along with yoga and spirituality. Furthermore, there are many students other than Brahmin in Sanskrit schools and Gurukuls. They cannot engage in the ritualistic activities like Brahmin boys because of caste-based Brahminical dominance of the society; however, they are motivated towards the original Sanskrit tradition recently. Anyway, Sanskrit and Vedic scholars can perform as the translator and interpreter of ancient archeological texts of Sanskrit language. Due to the increasing attraction towards Sanskrit education, many private schools also have included it in their curriculum. This shows that Sanskrit education that teaches Sanskrit language, Vedic knowledge and rituals has contributory for career seekers (Timilsina, 2023) [28]. Thus, its role for the development of different forms of human capital, (economic, cultural, and social) as suggested by Bourdieu (1986) [4] is crucial. However, the research on how these institutions create hidden disparities, particularly, by gender and caste in students with the engagement in different capitals are still unexplored. Existing studies have examined contribution of Sanskrit education and analyzed gender and caste-based disparities to some extent. The investigation on the role of mathematics to bridge the gap is rare, Hence, this study aims to fill the gap by evaluating how mathematics and other skill-oriented disciplines contribute as tools for inclusion or exclusion in economic and socioeconomic capital.

In this context, this study aims to analyze the early engagement of students in economic and sociocultural capital in Sanskrit schools and Gurukuls in Nepal, focusing on gender and caste-based disparities caused by the curriculum and how can mathematics and other skill-oriented subjects bridge the gap in the curriculum in these institutions. More specifically, the study has research objective: to examine how Sanskrit schools and Gurukuls in Nepal shape differential access to economic and sociocultural capital based on gender and caste, with a focus on the role of mathematics in enhancing more inclusive curriculum. The two research questions that guide effectively to achieve the mentioned objective of this study are as follows:

1. How do Sanskrit schools and Gurukuls of Nepal shape gender and caste-based disparities in economic and sociocultural capital?
2. What is the role of mathematics in Sanskrit education in fostering more inclusive learning environment, particularly for girls and non-Brahmin students?

1.3 Theoretical Framework

This study employed the theory of capital developed by Pierre Bourdieu (1986) [4] to evaluate how Sanskrit Schools and Gurukuls of Nepal create disparities among students in the engagement with economic and sociocultural capital across gender and caste lines, focusing on the role of mathematics to bridge the gap in these institutions. Bourdieu explained the three fundamental forms of capital: economic capital, cultural capital and social capital. To him, capital, in any form either in tangible or intangible form, is the product of accumulated labor; those who possess it gain power and control over social and economic dynamics. Further, education is the means of knowledge transformation through which social hierarchy is also reproduced due to unequal distribution of capital (Bourdieu & Passeron, 1990) [5]. In this context, this theory helps to analyze the unequal consequences of existing Sanskrit school curriculum and evaluate how these institutions contribute to create hierarchy in the society, particularly gender and caste-based classes.

1.4 Sociocultural and Economic Capital in Sanskrit Education

Financial properties and physical resources are considered as economic capital. Economic capital is the monetary capital that is directly convertible into money or can be immediately "institutionalized in the form of property rights" (Bourdieu, 1986, p.16) [4]. Similarly, cultural capital is associated with knowledge, skills and academic achievement. In Bourdieu's words, cultural capital can be

converted in to economic capital "in certain conditions" or may be "institutionalized in the form of educational qualifications" (p. 16). Next, social capital is connected with the networks of opportunities (Bourdieu, 1986) [4].

In the context of Sanskrit schools and Gurukuls of Nepal, students, particularly Brahmin boys leverage their sociocultural capital such as: mastery of Sanskrit language, knowledge of ritual procedures, and their caste status, to secure roles as priests and astrologers. At the same time, they are earning both cultural and social capital gaining cultural values and social prestige along with their academic qualifications. This privileged access to sociocultural capital subsequently translates into economic capital by accumulating wealth. On the other hand, girls and non-Brahmin boys are not engaged in such economic prospects due to religious culture of only Brahmin Priesthood. Timilsina (2023) [28] stated, "females are separated from hectic ritual works and priesthood where the priest/s might spend a long time for sacrificial ceremonies. In the field context, there is confusion about the destination of female priests, their acceptability, and professional guarantee in society". Further, he finds "a division of labor" in the religious cultures (p. 127). Thus, social hierarchy and Brahminical dominance are caused by Sanskrit education for long time (Michaels, 2004) [15]. This study attempts to analyze how such division contribute gender and caste-based stratification within the educational settings.

2.Methodology

2.1 Research Design

A pure qualitative research design was employed for this study. Since the perceptions, beliefs, stories and experiences of teachers and students are the information of this study, qualitative research design is the most appropriate design for this study. Particularly, qualitative descriptive design was adopted in this study. A qualitative descriptive design is taken as the most suitable approach because it admits the subjective nature of the issue, accounts for the varied experiences of respondents, and presents findings closely aligning with the language used in the research objective (Bradshaw *et al*., 2017 [7]; Doyle *et al*., 2019 [10]). In this study, this approach was adopted to evaluate how Sanskrit schools and Gurukuls in Nepal shape differential access to economic and cultural capital based on gender and caste, with a focus on the role of mathematics in enhancing more inclusive curriculum.

2.2 Study Sites and Respondents for the Study

Two Sanskrit secondary schools, one from Kathmandu district and another from Dhanusha district were selected as students from almost all parts across the country are studying in these two Sanskrit schools. Similarly, two Gurukuls, one Kumar Gurukul from Kaski District and another kanya Gurukul from Chitwan district were selected. Kumar Gurukul admits only boys and Kanya Gurukul admits only girls as students. However, the study sites were selected purposively according to the convenience of researcher, it was attempted to represent sociocultural and geographical diversities and institutional dynamics within the Sanskrit stream educational institutions as much as possible in this study. All these four schools both Gurukuls and Sanskrit schools were run according to the grade system up to grade 12. Further, mathematics teacher teaching at grade eight, all the students studying at the same grade and principal (head teacher) of each study site were the respondents of this study.

2.3 Procedure

The earcher conducted a dry run in a Kumar Gurukul located at Kathmandu district to build confidence in the research work. After getting confidence in both technical and academic aspects of research on the basis of dry run, the researcher visited all the study sites herself with an authentic letter from the research Centre of the University. The dry run further helped the researcher to revise tools such as: Interview Guidelines for teachers and principals and Focus group Discussion Guideline for students and Guideline for the observation of the participants.

Mathematics teacher and principal of each Sanskrit school and Gurukul were interviewed face to face with the separate Interview guideline strictly following the interview protocol. Next, the researcher stayed in each study site for at least three days and observed the classes of grade eight students along with the careful fieldnotes. After being familiarized with the students, one/one Focus Group Discussion in each Gurukul and two/two FGD (one with boys and one with girls) in each Sanskrit school with maximum 10 students were conducted with FGD Guidelines. Interviews and FGDs were carried out in a more appropriate place to make feel free to discuss the issues in- depth. Open-ended interviews and focus group discussions were promoted to allow the respondents to talk about the issues. Researcher guided the discussion probing key questions without interference of freedom of students. All the classroom observation, FGDs and interviews with both teachers and principals were conducted and audio-video recorded by the principal author with the written informed consents. The length of interviews and FGDs ranged from 55 minutes to 90 minutes.

2.4 Data Analysis

In a qualitative research, analysis and interpretation of the gathered information followed by the data preparation and organization, initial immersion, coding, categorizing and theming (Saldana, 2014) [22]. All the audio-video recording of classroom observation, interviews of teacher and principal and FGDs were first transcribed in Nepali language and then translated into English standard language with the help of English experts. After then, all the data including field notes were organized in a repository for easy access as suggested by Saldana (2014) [22]. After multiple reading and rereading the organized information, first cycle and second cycle codes were developed using inductive data-driven approach. After this stage, deductive approach of coding was also used to capture the essence of the information best fit to the research questions of this study. Thus, this study employed a hybrid strategy for the coding scheme as suggested by Boyatzis (1998) [6].

Next, analysis and interpretation scheme of this study was based on thematic analysis. The researcher engaged in the process of theming data. Initial codes from the list of first and second cycle codding were merged and the resulting themes were generated assigning reflective meaning. Thus, early engagement with economic and cultural capital of students of Sanskrit schools and Gurukuls of Nepal by gender and caste was evaluated. Along with this, the role of mathematics to minimize the disparities existed in human

capital was searched through analysis and interpretation of gathered information.

2.5 Study Limitations

Despite the in-depth inquiry, this study has several delimitations to be acknowledged. The findings of this study may not be generalized to other contexts like: general stream schools and Sanskrit stream school outside Nepal as the study was contextualized to certain Sanskrit schools and Gurukuls of Nepal. The gathered information may not completely capture the realities of all marginalized groups. The study mainly included mathematics teachers, students and principals as the participants of the study to include various perspectives across gender and caste. Next, the findings of this study are determined by the subjective experiences and personal and social prejudice of the respondents due to the qualitative nature of the study. Further, time and financial constraints limited the extended engagement with the institutions. Despite these bounds, the study provides valuable insights into the interconnected dimensions of human (economic and sociocultural) capitals, mathematics and social stratification in Sanskrit educational institutions.

3. Findings and Discussion

The key findings derived from interviews with mathematics teachers and principals; focus group discussions with students and observational insights across Sanskrit schools and Gurukuls in Nepal are associated with the major themes emerged from the gathered information. The themes reflect deep rooted gendered and caste-based disparities in the access and engagement with economic and sociocultural capital. Moreover, this study found the influential role of mathematics to determine students' effective engagement in both sacred and materialistic knowledge system. Along with this, the study found the necessities of inclusion of practical skills and competencies in the curriculum of Sanskrit stream academic institutions to narrow down the gap in the engagement with sociocultural and economic capital.

3.1 Brahmin Boys' Engagement with Sociocultural and Economic Capital

Sanskrit education has promoted practical skills and competencies valuing own cultures and traditions along with the economic returns. It has increased the chances of job availability and enriched the economic growth of students in the local level. Boys of Sanskrit schools and Gurukuls in Nepal are engaged in economic activities through ritual services like: Karma Kanda from their early ages. Most of them start earning good income generally from grade six. They support their family and they themselves are independent financially. Regarding the involvement of boys in the economic activities, of Gurukuls and Sanskrit schools of Nepal, a mathematics teacher T1 from a Sanskrit school shared about the good earning of students through Karma Kanda (ritual service),

Some of the boy students from Brahman community of this school stay in the Ashram of different temples. They earn sufficiently through Karma Kanda. One of the boys sent approximately one and half to two lakhs Nepali rupees to his parents during earth quake of 2072 B. S. At that time, he was studying in grade seven. There are other students too, having less or more the same earning.

Supporting the similar sense, another participant P4 as a head teacher of a Kumar Gurukul stated that some of the students were really attracted towards Sanskrit education for mainly two reasons: first, the Gurukul was free for meal and residence and second, students had attractive earning even a single day of Purana (story telling) and various Karma Kanda. Thus, the principal P4 of a Kumar Gurukul added the similar view,

Some of the parents with poor economic and social background have left their sons in this institution with the dream that their sons would earn their living easily by Karma Kanda and at least they would not go to abroad for labor. Along with this, Sanskrit education has become the center for attraction as students of Sanskrit background will have better future because of habit of hard working and reciting anything easily.

Indeed, such economic involvements enhance the social prestige and spiritual authority of the students from their early ages. Thus, Brahman boys of Sanskrit schools and Gurukuls engage in income generating activities from their early ages, particularly through Karma Kanda (ritual services). Such engagement in economic activities enhance individual and sociocultural empowerment. In this regard, it is relevant to paraphrase the opinion of Bourdieu (1986) [4] that early economic engagement is widely accepted as a key factor of individual and societal empowerment. These activities make them financially independent at their young age and hence surprisingly develop the sense of economic contributor within family and the society they live. As stated by a teacher participant T1, Brahman boys begin earning significantly, often from grade six, in these institutions. Most of them even send considerable sums to support their families economically that show their financial capabilities. One of the cases demonstrated that a student from grade seven remitted approximately one and half lakhs to two lakhs rupees to his family in the village during the natural calamity of earthquake in 2072 B. S. That was not only the case, there were several cases of very good earning in the early ages of Brahman boys, in these institutions. Such instances definitely highlight the pivotal role that Sanskrit education and ceremonial services play in shaping the economic landscape of these young students.

Further, since the boys from Brahman communities who are studying in Sanskrit schools and Gurukuls, are able to sustain themselves financially, this aligns with the notion of broader self- sufficiency. Many western societies have linked such early financial ability with the empowerment and self-sufficiency analyzing through sociocultural perspective as mentioned by Beck and Beck-Gernsheim (2002) [3]. As noted by a principal P2 of a Kumar Gurukul, the main reason of many students' attraction towards Sanskrit education is the economic incentives. Specially, economically disadvantaged families have much more attractions to these institutions because of such stable income through ritual performances and due to free lodging and fooding services for all the students offered by the Sanskrit stream academic institutions, particularly Gurukuls. Additionally, principal participant P3 emphasized that some parents sent their sons in these institutions with the expectation that they would secure a sustainable livelihood through ritual services, reducing the necessity for labor migration abroad.

3.2 Sociocultural Capital and Ritualistic practices

Students from non-Brahmin communities including girls

from Sanskrit schools and Gurukuls are not being benefitted financially through the ritualistic services like: Karma Kanda. Only boys from Brahmin communities are advantaged from the financial from Karma but students from other castes, ethnic backgrounds, and even girls generally are not participated in it. Nepalese society traditionally does not accept non-Brahmin individuals or females as priests, thereby restricting their access to ritual services that provide financial rewards.

However, in Kanya Gurukuls, girls study Veda and Karma Kanda along with the Neeti shastra and Falit Jyotish as optional subjects. Gurukuls have offered such subjects which will help girls to earn their lives to some extent. But in Nepalese society, it is not customary for females to engage in Karma Kanda as priests. However, some of the females are becoming popular as the Bhagavat Vachika (Story teller) recently. Girls will generate earnings by telling story in the future. In this study, a principal participant P3 from a Kanya Gurukul expressed that girl studied Veda and Karma Kanda from grade six. Along with this, Neeti shastra and Falit Jyotish were the optional subjects for them. According to him, Jyotish is one of the important subjects that helps girls to earn their living in the future. However, girls of Gurukuls and Sanskrit schools are not being involved in the income generating services like boys, although girls are praised for reciting Sanskrit verses and valued for storytelling sufficiently in the society. The trend of girls' participation in Veda chanting attracted the attention of the researcher (Timilsina, 2023,) [28]. Definitely, they are socially and culturally valued but do not generate any economic benefit. According to Feminist Economic Theory of Waring (1988) [30], contributions of females like: storytelling, caregiving, knowledge sharing are valued as cultural rather than economic. Girls of these institutions are also inspired by the popular story tellers and have the dreams of being such role models, themselves. P3 further supported the fact by saying, "Girls in this school have dream to be Bhagavat Vachika like: Radhika Dashi. We need to broaden their dreams and to inspire and motivate for the higher possibilities."

In another context of future career opportunities, the principal of Kanya Gurukul stated, "In Kumar Gurukuls, boys learn Sanskrit and be sure that they will earn their living through Karma Kanda. Here, in Kanya Gurukul, girls study Sanskrit to be cultured."

Hence, gendered and caste-based disparities persist in economic participation within Gurukuls and Sanskrit schools. This exclusionary practice may reinforce existing power hierarchies and ensure that only a privileged group, primarily Brahmin boys can reap the economic benefits of Sanskrit education. The structural barriers embedded in these traditions align with Bourdieu's (1986) theory of capital, as access to economic, cultural, and social capital remains unequally distributed in the curriculum of Sanskrit steamed academic institutions. As a result, students from marginalized groups, including girls and those from non-Brahmin backgrounds, are deprived of the same financial opportunities and limit their pathways to economic independence.

3.3 Position and Role of Mathematics

Mathematics is provisioned as a compulsory subject in Sanskrit schools and Gurukuls (Government of Nepal, 2019) [13]. Although school mathematics curriculum is uniform across all educational institutions in Nepal, including Gurukuls and Sanskrit schools, it does not integrate contents relevant to ritualistic practices, such as calculating auspicious time (Shubha muhurta) or constructing lunar calendars that are skills essential in Sanskrit education. Hence, the curriculum fails to address the specific needs of students in Sanskrit-stream institutions. Consequently, many such institutions do not prioritize mathematics as an optional subject from Grade 9 onwards. Thus, mathematics is treated as a secondary subject with limited emphasis and instructional time. However, the basic knowledge and skills of mathematics are useful for ritual practices, particularly to determine auspicious times (subha muhurta) for various rituals and ritualistic functions, to prepare lunar calendar (patro) and other astrological predictions. Brahmin boys utilize their mathematical knowledge in Karma Kanda practically. In a focus group discussion, boys of a Kumar Gurukul realized the utility of mathematics in the ritual services in this way,

We use mathematical knowledge by drawing lines and angles in Vedi, to construct Yagya Mandap in the proper shape, to determine various saita (muhurta). Mathematics is everywhere. We as other, use mathematics to run our practical lives, to count money and to plan budget, too.

On the other hand, girls and non-Brahmin boys study mathematics in these institutions focusing only for the examination, rather than real world applications. In this regard, a mathematics teacher from a Sanskrit school from Kathmandu district remarked, "Rarely, some of the boys be curious about the mathematical application on ritual activities. Others study mathematics for examination."

Such differential focus on mathematical engagement reflects significant sociocultural exclusions. A principal from a Kanya Gurukul expressed that boys in Kumar Gurukuls are assured economic prospects through their education, whereas girls in Kanya Gurukuls are primarily trained to be cultured individuals. In addition, it was said, "To be a model as a capable lady, they should learn other modern subjects like: Mathematics."

This assertion shows that cultural participation of girls seems symbolically inclusive but practically exclusionary. This observation resonates with the broader feminist discourse on economic disparities in education and labor (Nussbaum, 2000) [16]. To foster gender and caste-based equity, it is crucial to integrate modern subjects such as optional mathematics and science into the curriculum of Gurukuls and Sanskrit schools and provide inclusive economic opportunities for all students, regardless of caste or gender.

In the western countries, entrepreneurship programs are launched and students both girls and boys are encouraged to participate in income generating skills. Western feminist economists also have advocated for recognizing and valuing unpaid labor through plan and policy to maintain economic equity for all genders. In our context, Brahmin boys involve in financial empowerment from early ages but not boys from other castes and ethnicities, whereas girls are expected to be socially cultured but not financially empowered through Sanskrit education in Gurukuls and Sanskrit schools. In this sense, Sanskrit education has played important role to strengthen both economic and cultural capital for Brahmin boys but not for other boys and only cultural capital for girls. The difference in early economic involvement by caste and gender may determine long-term caste-based and gendered participation in economic and

social-cultural capital. Thus, Sanskrit stream education may offer differential economic opportunities favoring Brahmin boys. Consequently, it can create disparities in social status and career opportunities, too; and continue promoting existing social hierarchy by caste and gender.

3.4 Necessities of practical skills in the Curriculum

It is important for Sanskrit based educational institutions to adapt modern ideas of gender equality by ensuring both economic empowerment and social prestige without distressing the traditional Sanskrit norms and values. The findings highlight that early economic empowerment is extremely intertwined with the cultural influences and gendered expectations of the society and hence economic benefits are highly restricted to a certain elite class. In this scenario, reevaluation of the priorities of existing curriculum and broader societal reforms are essential to bridge the mentioned disparities in early economic and cultural empowerment. Principals and teachers of Sanskrit schools and Gurukuls suggested for the implementation of relevant interventions in future in the policy level to focus on greater academic access and career opportunities for disadvantaged classes. This can be aligned with the universal caste and gender equity frameworks that can enhance the real freedom of the people (Sen, 1999) [23]. To empower all the students beyond gender and any particular caste and ethnicities, broader curricular reforms should be done integrating some of the essential skills from the sixty-four skills (Chatussasthi Vidya) as mentioned in Kama Sutra by Vatsayana according to Arathi (2025) [1]. There are many Hindu scriptures that explain different sixty-four arts with the varied forms of skills related to arts, technology and fundamental but very important skills such as vocal music (Geetam), instrumental music (Vaadyam), dance (Nrityam), painting (Aalekhyam), composing poetry (Kavyakriya), poetry and esthetics (Kriya Kalpa), cooking and culinary skills that are related to preparing different types of curries, soup etc. (Bhaksya Vikaarakriyaa, carpentry and Blacksmith's profession (Takshana), tailoring (stitching, weaving, embroidery and even artistic styles of folding clothes) (Soochi Vaana Karma), astrology (Jyotisha) etc. These all arts are important for the all-round development of students. These arts can be included in the curriculum, revisiting the existing curriculum so that all non-Brahmin boys and girls can empower themselves for early financial and cultural capital.

4. Conclusion

The findings of this study reveal the intersection of early engagement with economic and sociocultural capital with the role of mathematics in Sanskrit educational institutions in Nepal. It further presents deeply rooted caste and gender hierarchies continue to determine educational outputs and better life opportunities. Brahmin boys are benefitted from ritualistic services like: Karma Kanda. At the same time, girls and non-Brahmin boys remain excluded from these opportunities. Their engagement in Sanskrit education is culturally valued and symbolically inclusive but practically exclusive. As a result, it creates significant disparities in the development of human capital.

Regarding mathematics, though it is an integral part of school curriculum, it contributes significantly within ritualistic practices for Brahmin boys, reinforces for dual engagement in sociocultural and economic capital. On the other hand, girls and boys from non-Brahmin communities study mathematics as a burden of examination without connecting it with economic utility of practical and real life. These forms of differentiation promote existing sociocultural disparities and further influence negatively in the transformative potential of Sanskrit education for broader societal inclusivity. The findings of this study suggest for the curriculum reforms with the inclusion of modern subjects and vocational skills of the indigenous knowledge as suggested in Chatussasthi Vidya (Arathi, 2025) [1] to widen the pathways for all students beyond caste and gender. In this regard, policy interventions should be aligned to traditional educational values with contemporary structures of caste and gender justice and should promote all students to participate in economic and sociocultural empowerment.

Future research could explore similar dynamics in general stream educational institutions in Nepal or Sanskrit stream educational institutions beyond Nepal for the deeper insights into institutional influences. The studies could include broader range of participants like: parents, alumni and policy makers. Methodologically, mixed methods or longitudinal studies could provide real understandings of how gender and caste-based disparities in the access of sociocultural and economic engagement of students could limit social mobility, empowerment and educational equity. Further, intensive studies on marginalized sub-groups could unfold the intersectional realities of gender, caste and education.

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