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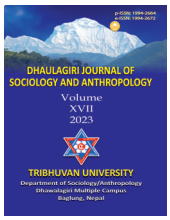

Ecological Implications of Local Curriculum: Lessons Learned from a Participatory Action Research Project in a School in Nepal

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Abstract

The dominant schooling design of the schools in Nepal celebrates Western-modern ideals of indoor schooling structure. The indoor design has continuously separated school education from the 'living' world. It has also constrained pedagogical innovations for outdoor teaching and learning. As textbook-based indoor teaching and learning has been culturally established as the standards of school education, despite several trainings and capacity development programs for headteachers and teachers, many schools in Nepal have not been able to address the intent of local curriculum for outdoor teaching and learning. Against this background, evidenced through the lessons learned from a Participatory Action Research (PAR) project for contextualized teaching and learning in a rural-located school in Nepal, this study portrays how the initiations for the local curriculum has been sandwiched in the limited space of linearly designed indoor pedagogical structure of the school. It argues the need to discover the ecological implications of the local curriculum. Following the transformative sustainability principles, the ecological implications suggest local curriculum practitioners revisit indoor schooling design and make it flexible to embrace community lifeworld as teaching and learning resources.

Keywords: Ecological implications, local curriculum, PAR, transformative sustainability

Introduction

In July 2017, research-degree students from Kathmandu University School of Education (KUSOED) began exploring ways to contextualize school teaching and learning. The major objective of this NORHED-funded Rupantaran Project was to establish schools as an agent for transformative practice and praxis. It adopted Participatory Action Research (PAR) as a methodological approach for pedagogical innovation. My role as a Ph.D. researcher with the team was to facilitate PAR in a school in the Kavre District. Under the Rupantaran umbrella project, I aimed to explore ways to contextualize school teaching and learning. The series of PAR actions and reflections for contextualized school-pedagogies offered various understandings of local curriculum policy provisions and implementation practices in the public schools of Nepal (Wagle & Luitel, 2023). This article makes a detailed articulation of those understandings.

Before narrating the field scenario, I set the scene bringing into reference the short history of local curriculum policy provisions in Nepal. Educating people based on their local needs is not new in Nepal. Long back, in 1992, the National Education Commission recognized the importance of incorporating local need-based learning in school education (National Education Commission [NEC], 1992). To contextualize school teaching and learning through the local curriculum, the commission recommended educational reform to work in this area. Following this, in 1992, Nepal implemented the Primary Education Curriculum, which incorporated the policy provisions for the local curriculum (Curriculum Development

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Centre [CDC], 1992). However, the provision lacked practical implications except for including local content in centrally prescribed course books. In 2003 and 2005, Nepal repeatedly revisited the primary school curriculum, where the policy documents eloquently discussed making school teaching and learning more relevant through local content. Following the discussions, the national curriculum framework (2005) partially included local content in selected subjects (CDC, 2005). For example, it had provision to include a 20 percent course weightage of local contents in social studies, creative and expressive arts, and physical education. Also, the framework made the provision of 100 percent weightage for a separate local need-based curriculum. Besides, the schools could include the mother language as a local curriculum.

Later, in 2010, the Curriculum Development Centre (CDC) published directives related to the local curriculum (CDC, 2010) and distributed the directives in the schools. The directives were intended to empower local stakeholders in designing the relevant curriculum (CDC, 2010). Despite such initiatives, studies observed prevalent policy practice gaps in implementing local curricula in Nepali schools (Centre for Educational Innovation and Development [CERID], 2010; Subedi, 2018). Till 2010, no school had developed and implemented its 'textbooks' on the local curriculum (CERID, 2010). Deviated from the pragmatic intention of the local curriculum to teach and learn from local needs and resources, Nepal experienced a popular trend of teaching a separate book on the English language in the name of the local curriculum (Subedi, 2018; Wagle & Luitel, 2023). Some schools that claim to develop and implement local curricula are teaching books with local contents (inside the classroom) and preparing students to pass its exam (Wagle et al., 2019). Unlike its participatory and generative principles to involve multiple stakeholders and continuously revisit the course contents (see CDC, 2010), the local curriculum development and implementation have become neither participatory nor generative. It raises the question- why many schools in Nepal couldn't develop and implement the local curriculum policy provision of the Nepal government? Despite the philosophically pragmatic intention of the local curriculum for life-based outdoor teaching and learning, why have many schools in Nepal 'failed' to move them beyond book-based indoor schooling? To these considerations, this study aims to recognize the ongoing policy-progress, explore difficulties in implementing the policy-provisions, and suggest research-informed ways to address the policy-practice gap in local curriculum practices in Nepal.

Contextualizing the Agenda

Bringing into light the policy prospects, the Constitution of Nepal, 2015, has recently called for structural and functional reforms in educational sectors. It has laid down the directive principles of the federal state, provinces, and local bodies on education. The Nepal Government has also provided decision-making powers, including curriculum development and implementation, to the local governments. Therefore, it is likely that localized education, local development, and sustainability are major socio-educational priorities of the Nepal government. Following the educational reforms, the Nepal government has introduced an integrated curriculum (Ministry of Education [MoE], 2016). Accordingly, starting from grade 1, the pilot projects for integrated teaching and learning are ongoing. The provision for the integrated curriculum seemingly supports breaking the long-practiced (linearly-made) disciplinary ideals of school education. In this background, the local governments may now use constitutional rights to develop their local need-based (and integrated) school curriculum and implement it in their service area. As Luitel and Taylor (2019) suggest, such policy initiations for contextualized pedagogies could bridge students with their cultural artifacts and everyday lifeworld. Such initiations would likely acknowledge cultural diversities and establish education as a powerful means for sustainable development. Acknowledging this line of relational ontologies (Lange, 2018; O'Neil, 2018), and accepting such socio-cultural and geo-political diversities of Nepali communities, Rai (2018) suggested wise use of the decontextualized policy provisions and making school pedagogies more culture-inclusive. However, despite centrally made policy provisions and research suggestions, local authorities in Nepal have hardly made any informed discussion on local need based school education (Wagle et al., 2019). Many schools lack informed awareness of their time and space and what skills their students have to foster (MoE, 2017). As such, life-based relevant teaching and learning through school-based local curriculum are not adequately 'actioned' (MoE, 2016). A national achievement report (Education Review Office [ERO], 2019) supports this claim of pedagogical indecisiveness in Nepal's school system.

Recent studies (e.g., Subedi, 2018; Wagle & Luitel, 2023) claim that the poor implementation of the local curriculum in the schools of Nepal is due to its theoretical, philosophical, methodological, and practical ambiguities. For example, Nepali policy documents don't hold informed views on what is 'the global', and what is 'the local' in school education. The confusion further extends regarding how much local and global (Rai, 2018). There are also no informed discussions on what 'local value' the school education of this country needs to hold (Subedi, 2018). Does local value mean being traditional? Being national? Being decolonial? Being Indigenous? Without proper orientations, there is a risk that many school stakeholders take the local curriculum as a means to promote conservative (and superstitious) ideals through overly romanticized traditional practices (Wagle et al., 2019). Despite the ambiguities, a few local governments have recently begun to design local curricula for their schools. But knowingly and unknowingly, those curriculums have taken the form of traditionally

practiced course books, a separate discipline for students to learn and pass the exam (Wagle et al., 2023). The practices have deviated from the original intention of the local curriculum to promote local resources and local wisdom traditions for transformative sustainability. Such scenarios suggest the need to rethink our linearly designed (local) curriculum discourses. In this context, this study addresses the research gap in local curriculum practices in Nepal and takes an ecological look at the phenomenon.

Ecological Worldview

Making an ecological look means seeing the phenomenon through an ecological worldview. Ecological lens or ecological consciousness is a philosophical framework that recognizes the interconnectedness and interdependence of all living and non-living beings in the complexly built web/s of time and space (Agrey, 2014; Smith, 2002). From this lens, 'local' and 'global' are not separate entities but the extended version of the place far and wide. In this lens, 'local' is not limited to Western-modern tendencies to generalize knowledge as a universal phenomenon. Instead, it looks for the contextual relevance of the meaning. Equally important, such ecological perspectives don't take local as a binary opposition to the Global. In this interconnected widening circle of time and space, there is local in the global and global in the local (Heidegger, 2002). To this end, this study adopts an ecological worldview and the associated paradigm to make relational meaning of the local-global and contextual phenomenon. It takes a holistic and relational undertaking of all living and non-living beings (Agrey, 2014). In the language of Esbjörn-Hargens and Wilber (2006), the ecologically creative openness and maturity for new and original interpretation orients this ecological worldview. Also, as Smith (2002) claims, this ecological way of seeing is neither to suggest a 'valid' answer to the question nor to encourage silence but to accept and, therefore, remain open to the apparent chaos, order, ambiguity, and complexity inherent in the complexly-built ecological web. To this end, viewing through the looking-glass of the ecological worldview, this study acknowledges this time-space hermeneutics of the local and the global phenomenon (Heidegger, 2002); acknowledges school as a living system; and discovers ecological implications of the local curriculum as 'living curriculum' to emerge, to attune and to harmonize with ecological principles of authenticity, relationality, sincerity, and ethical responsibility.

Transformative Sustainability Education

Following the ecological worldview, this study takes transformative learning theory, particularly transformative sustainability teaching and learning, as theoretical referents. Unlike 'keeping things the same' orientation of sustainability education, transformative sustainability seeks constructive knowledge and actions to foster the life-giving potentiality of the earth (Lange, 2001). Elaborating on it, Burns's (2015) calling for transformative sustainability pedagogy showed many possibilities for learning from the lifeworld, the human landscapes, ecological systems, and indigenous wisdom. Also, as Gulson and Symes (2007) suggest, such learning needs everyday place encounters and the human landscapes as the pedagogical source. Such suggestions for transformative sustainability teaching and learning, according to Hathaway (2017), potentially activate hope in the present crisis characterized by anthropocentrism, environmental degradation, increasing numbers of unemployed youth, and racial hostilities. But for it to be effective, unlike mechanistically indoor schooling, pedagogies must move to the lifeworld, the community, and the human landscapes. Also, the pedagogies have to introduce inter-disciplinary (and also transdisciplinary) approaches in education (Miller, 2010), which in the language of transformative educators Duenkel et al. (2014), is an endeavor of seeking pedagogical wholeheartedness. Thus, as looking for transformative sustainability pedagogies is an endeavor to seek life-sustaining ecological potentiality inherent in the lifeworld, this study has made ecological meaning of the local curriculum through theoretical lens of transformative sustainability education.

Study Methods

As suggested in the introductory paragraph, this study makes meaning of the findings from a Participatory Action Research (PAR) project in a rural school in Kavre, Nepal. This PAR project aimed to develop knowledge and practice grounded in the participants ' context, mainly inspired by Kemmis and McTaggart (2005) and McNiff and Whitehead (2010). The PAR team included 2 PhD. researchers, 12 school teachers, the headteacher, School Management Committee (SMC)/ Parents Teachers Association (PTA) members, 16 student representatives (two from each class starting from class 1 to class 8), and six community advisors (to represent the community voice). Research participants, particularly the headteacher, teachers, and student representatives, played the dual role of a research participant and a practitioner-researcher. In other words, they were the co-researchers. The team participated in identifying the improvement needs, worked with potential solutions, and reflected on the outcomes. The SMC/PTA members and the community advisors, though, were not the active co-researchers; they continuously gave constructive feedback throughout the process.

Influenced mainly by Freire (1970), Foucault (1979), and Habermas (1971), and thereupon the theoretical underpinnings from constructivism, feminism, social justice, and critical theory, the PAR approach forwarded empowerment concerns at the social and political influences on co-researchers' social realities. It challenged the power structures in school where the researcher, the

headteacher, teachers, and student representatives equally participated in reflective dialogues and decision-making. We encouraged such democratic participation to ensure a few fundamentals of PAR, like autonomy, empowerment, sustainability, and ownership (see Kemmis & McTaggart, 2005; McNiff & Whitehead, 2010). Drawing on the interdependence principle of the school as a living system, the PAR team remained open to manifold unintended and unanticipated contextual moves that would arise during the PAR process. The 'data' source and 'data' generation process varied according to the PAR phases and cycles discussed in the separate heading below.

PAR Phases and Cycles of this Study

The overall PAR project completed four different phases. In the preparatory phase, two PhD. research students from Kathmandu University School of Education entered the study community and the school. Within the Rupantaran umbrella project, as a PhD. researcher, I was concerned with exploring ways for contextualized pedagogies. Likewise, the fellow PhD. researcher was particularly interested in contextual approaches to teachers' professional development. In this phase, we (the PhD. researchers) focused on strengthening insider-outsider communicative space (Sherif, 2001). As a principal researcher, I continuously visited the community, discussed with community people, observed their lifeworld, and made journal entries of my reflective observations. The planning phase followed the preparatory phase, where informed through the Participatory Needs Assessment of the study school (see Wagle et al., 2023), the PAR team identified decontextualized teaching and learning as an overarching need for pedagogical innovation. The source of evidence was the teachers' in-school (4 days long) participatory workshop, two different Focus Group Discussions (FGDs) with students, and one separate FGD with parents. The action phase that followed the planning phase passed through three consecutive cycles of reflection, plan, action, and observation (Kemmis & McTaggart, 2005). There, the PAR team explored manifold possibilities for a participatory and generative model of teaching and learning for contextualized pedagogies. Figure 1 below shows the PAR phases and cycles of the study-

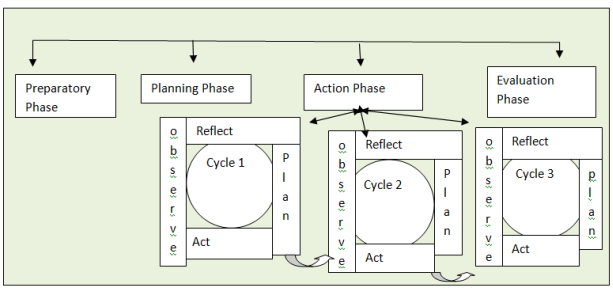

Figure 1. PAR Phases and Cycles of the Study

Each cycle's beginning and end marked three different terminal exams of four-month intervals in one (year-long) academic session. Cycle 1 continued from May to August 2018. The PAR community initiated some outdoor teaching spaces like school gardening. Cycle 2 began in September and ended in December 2018. It focused on exploring ways of contextualized pedagogies through ICT uses. Cycle 3 started in January and ended in April 2019, focusing on contextualized pedagogies through community partnership and parental engagement (see the heading, 'major observations' for the details). In this phase, we organized PAR teams' reflective meetings at the beginning, the middle, and the end of each cycle (a total of 9 meetings). As such, much of the evidence for this study was generated from my and the co-participants' reflective observations in the meetings. In each cycle, in the reflection stage, the PAR community of practice reviewed current practices and identified areas for improvement. In the planning-phase, the team explored possible solutions for the improvement needs and created an improvement plan. In the action phase, the team communicated the plan to all stakeholders and worked on planned activities thereafter. Following this, in the observation phase, the team observed the effectiveness of the improvement plan and activities and updated observations to the stakeholders (the SMCs, the PTAs, and the community advisors) and collected their feedback. The process continued for three different cycles. In numerous instances, informal conversations served as effective means to enhance communication and elicit latent narratives (McKenzie & Tuck, 2015), a task that formal meetings were unable to achieve. Building on the recommendations of Swain and Spire (2020; also referenced in Swain & King, 2022), I diligently attended to preserving the confidentiality and anonymity of the participants engaged in informal conversations. Moreover, wherever feasible, I fostered accountability by transparently communicating the research objectives to the individuals involved.

Interpretation of the PAR Actions and Reflections

Reflections and meaning-making began from the start of the project. It continued from the initial phase of the field days, the 4-days participatory workshop with the headteacher and the teachers, FGDs with students and parents, and passed through a long process of reflexivity in three different meetings in each cycle. As a principal researcher, I collected audio/video recording and note-taking which were transcribed and thematically analyzed. The literature and my experiences made a continuous reflective look at the PAR action reflections. I developed themes from two broader categories of the evidence (1) the evidence from the place, the community, and the human landscapes where the school was located, and (2) the evidence from PAR experiences for pedagogical innovation in the school. Once the themes were developed, I made

sense of the experiences about pedagogical innovation for contextualized teaching and learning. I triangulated my reflective observations with the thoughtful comments of the co-participants, which they shared in the workshop, the meetings, and the debriefing sessions. Also, following the suggestion by McNiff and Whitehead (2010), I ensured the trustworthiness through member checking, where I shared and solicited feedback from research participants after the entire interpretation and meaning-making process was complete.

Major Observations

Actions and reflections were evident throughout all four phases of PAR, and they led to the identification of three key themes. These themes, in various ways, would influence the ongoing development and implementation of local curriculum policies in schools within Nepal. The first theme focused on assessing the strengths and weaknesses of the local curriculum policies in Nepal, while the second theme highlighted the gap between policy intentions and their practical implementation. The third theme identified the limitations of the current schooling approach in promoting outdoor living pedagogies aligned with the vision of the local curriculum. The findings suggested that including local curriculum provisions in Nepalese schools could be an effective method for facilitating context-specific teaching and learning tailored to local needs. However, a significant incompatibility arose between the indoor schooling design that primarily emphasized studying from books to pass exams and the outdoor education envisioned by the local curriculum. In light of these themes, it becomes evident that future endeavors in local curriculum development and schooling redesign must be pursued in ways that complement one another. A departure from the traditional mechanistic schooling system is required, and instead, a new ecological understanding of schooling as a living system needs to be embraced. Elaborating on the entire process of initiating, designing, and implementing the local curriculum goes beyond the scope of this research. For those interested, I recommend referring to the paper authored by Wagle et al. (2023). Acknowledging the limitation of scope in this paper, the subsequent sections will delve into the detailed findings related to the aforementioned themes, which emerged as overarching during the cycles of PAR.

The Strength and Weakness of Local Curriculum Policy in Nepal

While in personal interactions and in the staff room, we, the PhD. researchers, had continuous discussions with the subject teachers and the headteacher. The local curriculum policy provisions and their implementation practices would often be discussed. Together with the school teachers, we would study the policy documents (e.g., CDC, 2005, 2010). Recognizing the need to develop a local curriculum in collaboration with local partners and stakeholders and to make curriculum development a continuous process, the policy provisions, in many ways, had advocated the participatory and generative approaches of pedagogical innovation.

One day, a social studies subject teacher showed me a book. It was a book on local curriculum guidelines prepared by the CDC (CDC, 2010). The guidelines suggested two significant ways to 'localize' and emplace school pedagogies. The school could develop one separate subject as a local curriculum. The school could also develop and implement local content of 20 percent weightage in social studies, creative and expressive arts, and physical education. As mentioned in the guideline, the school could make its curriculum in collaboration with stakeholders. The curriculum contents could be its localities, the lifeworld, and the cultural landscapes.

"We talk about active pedagogies like outdoor learning and learning through community. You see! If we just implement the local curriculum in a way the policy documents suggest, we can make our teaching and learning more contextualized and life-based", shared the Social Studies teacher.

"It's very true," said the Science subject teacher.

"In the name of contextualized teaching and learning, we can't just move beyond the central policies and guidelines. It is an opportunity that the local curriculum policy provision is already there. So, starting our contextualized teaching and learning journey is convenient by stepping on the existing policy provision", he added.

Starting from the first PAR cycle of initiating emplaced pedagogies through school gardening, the PAR team followed local curriculum policy provisions and related directives as a gateway for contextualized and emplaced teaching and learning. Moving through designing lessons for the garden-based local curriculum and integrating the lessons with other subjects like Science and Social Studies, we came across some strengths and weaknesses of the local curriculum policy provisions. Its suggestions for school-based, participatory, and collaborative curriculum development through community engagement (see CDC, 2010) were supportive. But, the way the schools would understand 'once developed lessons' as fixed and static would limit its generative (and continuous) development. For example, a teacher who would teach occupation in middle school repeatedly asked for the coursebook on school gardening. He was not comfortable with the curriculum alone. Also, the tendency to make separate lessons (for example, lessons on school gardening in our case) and teach students indoors to pass the exam was less likely to connect teaching and learning with the open lifeworld outside.

Once, in a group meeting, a Science teacher shared, "Maybe we have to re-think about students' assessment as well. Making students rote-learn the gardening contents

and prepare them in a way to pass the exam is seemingly contradictory," he said.

The headteacher responded, "You are right, but at present, this is the only way the central authorities have suggested we assess the students."

Thus, despite its good intention to connect the school and the local lifeworld, we began to discover the manifold pragmatic limitations of developing and implementing (outdoor) local curriculum in the school. Many gaps arose from traditionally (and habitually) practiced in-door classroom structure.

Policy-Practice Gap

During interactions, the teachers repeatedly stressed that Janahit School, like many other schools in Nepal, could not develop and implement a local curriculum in the past.

Accordingly, the headteacher said, 'We are teaching additional English instead.'

It surprised us.

"Is a book on the English language the local curriculum?" I asked.

The headteacher replied, "No, not at all. The government has given us the option to either develop a local curriculum from local content or to teach the mother language of the ethnic communities. Stepping on this policy provision, many schools began to teach additional English subjects instead of the local curriculum. We followed this popular trend."

Passing through similar discussions, we realized the limitations of pedagogical reforms (like local curriculum) arising from policy practice gaps. The headteacher shared that teaching additional English subjects in place of the local curriculum was the parent's choice.

"What to do? Parents want our students to do well in the English language. If we don't do so, they will take their children to the boarding school."

There, we realized how the community had held cultural expectations from the school, like- make my child good in English; make them pass SEE (Secondary Education Examination) with good grades; make them able to move to the city and foreign countries… Also, we realized how the schools were 'struggling' to meet the community's expectations for good examination grades and students' English language skills. To meet these expectations, schools would continue with in-door pedagogies, use textbooks, and prepare students for good grades in the examination. It seemed, therefore, that the meaning and purpose of life-based outdoor teaching and learning (which the local curriculum envisioned) had not been adequately established in the community.

"There are such policy documents on the development and implementation of local (life-based) curriculum, but why is it that the schools are not developing it?" – In a group meeting, I showed interest in knowing more from the Social Studies subject teacher.

"It's very usual…plan comes and goes", the teacher said.

"The same thing happened to CAS (Continuous Assessment of Students). The government made guidelines. A few teachers got training. It made good discussions for a few months and slowly faded. You see, there are neither school's initiation nor authority's monitoring and supervision", he added.

In a similar question- a science subject teacher said, "Our problem is not that we don't have good plan and policies… we have, but see…when it comes to implementation, we fail…, or that we don't take it seriously. There is no questioning from the community. Our parents want good exam marks, and we continue preparing students to meet their parents' expectations."

Here as well, we could sense the policy-practice gap in a way that the government made policy provisions for local curriculum without making local communities realize the purpose and meaning of local curriculum. It was likely that the schools couldn't possibly initiate local curriculum and community-based outdoor pedagogies unless the local communities took ownership of the initiations.

While in a teachers' meeting, a computer teacher shared, "Our municipality has not made any initiation to engage local professionals to develop local curriculum."

"I doubt how it could be participatory without the engagement of local people," he added.

It showed that the educational officials in the municipality were equally responsible for this gap. A few days after the discussion, I talked to the education chair of the Municipality where the school was located.

"Sir, have you thought of any plan for a 'local' curriculum in the schools within this municipality?"

He looked disinterestedly at me and said- "Making curriculum is not a big deal. We will make it in a week".

Policy guideline suggests developing a local curriculum from regular and extensive engagement and participation of local stakeholders. As said by the teacher, it showed even the municipality education chair was not aware of the participatory and generative nature of the local curriculum. Maybe the lack of engagement and the lack of stakeholders' participation was why (similar to the case of the study school) many schools around Nepal had failed to implement policy provisions for the local curriculum.

The Limitations of On-going Schooling Design to Implement Local Curriculum

From the very beginning of the first cycle, I was gradually getting aware that though the headteacher, the teachers, and the students were showing enthusiasm for the change initiatives, the pedagogical innovations for contextualized teaching and learning were 'sandwiched' in the anti-ecological (in-door) schooling practices. The

PAR team observed that the traditionally practiced school routine and the classroom-based schooling design 'to study books and pass the exam' were responsible for this. For example, arriving at the third cycle, we began exploring ways to learn from community visits and real-life engagements. A mathematics teacher showed disinterest in teaching and learning through community visits.

"See, we have a 45-minutes subject routine. This routine is not supportive of taking students out into the community."

His reason was seemingly genuine.

When I talked to the headteacher, she said, "No, we cannot change the schedule of the long-practiced school routine. We need permission from the School Management Committee (SMC) and government authorities."

Her statements questioned the autonomy of the school to make 'beyond conventional' decisions for pedagogical innovations.

Our idea of pedagogical innovation through active local community engagement, in many ways, had to 'fit within' and continuously negotiate with this culturally established (linear, departmental, and disciplinary) structure of the school. This dominant school structure was mainly designed to make students study books inside the classroom and prepare them for exam results. The school and the community had a cultural expectation of who the good students were, and they had culturally developed a perception that the students who would read books, memorize, and secure good grades in the exam were good.

Once, being enthusiastic about contextualized teaching and learning, a Social Studies teacher had sent class seven students to the community. He had asked them to work in the group, walk around the neighborhood, and take a digital photo of the entire cultural heritage in the community. The school provided each group with a camera and a mobile phone. Students walked around the community the whole day with greater joy and enthusiasm and brought many pictures. The pictures could be the library resources for the local curriculum.

Unfortunately, the next day, the school heard many complaints from parents, "We send our children to study in the school. Why are they running here and there during school time?"

The parents argued, "The school had to teach and prepare our children for the exam." Thus, though the government would develop improvement initiatives for local needs-based outdoor teaching and learning, the school would struggle to move beyond the established schooling culture and the community's expectations for good exam grades. It was evident from our PAR actions-reflections for local community-based emplaced pedagogies that though we had made some supportive environment for outdoor teaching and learning through local curriculum development and implementation, the following year when school administration designed the school routine, it created the routine precisely in the same way as it had intended the previous years. Teachers had to take regular classes inside the classroom, finish teaching the prescribed coursebook, and prepare students for the exam. There was little sign of hope for the sustainability of pedagogical innovations for contextualized (outdoor) teaching and learning.

Discussion

So, despite many policy reforms, why couldn't the schools in Nepal foster ‘real life' teaching and learning through the local curriculum? Evidenced from the PAR actions and reflections in the study school, the discussion herein makes an ecological observation of the phenomenon (Burns, 2015; Trickett & Beehler, 2017) through a theoretical looking glass of transformative sustainability education (Lange, 2018; O'Neil, 2018). As discussed in the separate headings above, ecological observation is the time and space-informed maturity that celebrates the principle of authenticity, relationality, and ethical responsibility towards self and the other. Informed by those ecological principles, transformative sustainability education inclines human understandings toward meaningful (and constructive) use of available resources.

As mentioned in the study ‘findings', the PAR experiences in the project school suggest that the local curriculum policy provisions in Nepal, to some extent, have envisioned context-responsive outdoor teaching and learning. The availability of local curriculum guidelines prepared and distributed by the CDC is evidence. Situating learning in a meaningful context, its practical development and implementation to take local experiences and resources as the foundation for school education (CDC, 2010). But, when the time came to develop and implement the local curriculum, the provision was not adequately 'actioned' in the schools. The claim in question is substantiated by the SSDP (2016-2021) document, along with corroborating research such as the study conducted by Subedi (2018) and Rai (2018). To this end, this study's findings align with past studies that local curriculum development and implementation a 'long-talked' but not 'actioned' reform agenda of school education in Nepal.

In the study municipality, which served as the location for the study school, it was noted that the municipality had recently taken steps to create and implement local curricula. However, in contrast to policy recommendations outlined in the CDC (2010), a substantial number of these initiatives lack both participatory and generative characteristics (Wagle et al., 2023). When taught as a textbook inside the classroom (which we observed in the study school), the non-participatory and non-generative curriculum has also continued the culturally dominant metaphor of curriculum as 'fixed contents' and 'cultural reproduction.' Also observed in the study school, the need to negotiate local curriculum within the linearly designed indoor schooling frame has continuously legitimized the

ways to view 'curriculum as textbooks', 'teaching as telling,' and 'learning as remembering' (Grundy, 1987; Schubert, 1986). Falling under the 'trap' of dominant pedagogical practices, schools have underestimated the basic principles of school-based participation and continuous generation and have been narrowly implementing local curriculum as a separate book to study inside the class and pass the exam. Unable to move beyond the in-door schooling conventions, even the local curriculum, which was supposed to be a promising initiative for contextualized (outdoor) teaching and learning, hasn't moved in a way to accept ecological images like 'curriculum as currere' (Pinar, 2012), and curriculum as experience and reconstruction (Dewey, 1933).

Bringing the meaning-making of this study that indoor schooling design limited outdoor pedagogies like local curriculum to foster, one may begin to think in terms of the question- Why have many other schools (in Nepal) haven't developed and implemented the participatory and generative model of local curriculum (?) (Subedi, 2018; Wagle et al., 2019, 2023). Among many other ways for participatory and generative natures of community-based outdoor pedagogies to foster, O'Brien (2013) suggests 'progressive' educators begin to see school organization as a living system. This metaphor of 'school as a living system' questions the limitations of present-day Western-Modern machine thinking dominant in school teaching and learning. Schools in Nepal are designed entirely for the learner's indoor preparation; therefore, implementing a life-based outdoor local curriculum within the existing indoor (and closed) schooling structure was seemingly anti-ecological and contradictory. It is where, Barane, Hugo, and Clemetsen (2018) claim that developing and implementing a local curriculum is a decade-long and continuous process that needs to pass through multi-layered steps of grounding, composing, anchoring, and growing. Breaking the dominant indoor design and coming out from the classroom to the community is the first but the most challenging step (see Barane et al., 2018).

Like many other schools in Nepal, the dominant pedagogical design of our project school, which we observed during class observations and in the conversations with teachers, was rigid and linear. The regular routine behavior and the 'narrowly' perceived purpose of education as 'to learn books and pass the exam' continuously added the intensity of pedagogical rigidity. For transformative sustainability educators like Lange (2018) and O'Neil (2018), such mechanical thinking inherent in school organizations sees everyday schooling rituals in terms of cause-and-effect relations. To support this linearity and routine behavior, schools make highly resistant administrative structures ranging from central to regional to municipality level. The central to local bureaucratic control and rigid routine of the school, which we experienced in the study school, were the constraints that had limited the school to exercising autonomous decisions and moving beyond the conventional cultural milieu. Under such circumstances, any pedagogical reform that couldn't 'fit' this dominant structure wouldn't make effective and sustained implementation. In many cases, it was not that the teachers were unaware of the importance of the local curriculum and outdoor education, but they couldn't go beyond the dominant design. They would often find themselves more comfortable and secure with the established culture.

Also observed in our project school, another constraint to 'bring life to school and school to life' through local curriculum was the lack of a solid sense of purpose and shared meaning among school stakeholders on- why local curriculum? Barane et al. (2018) observe that community participation in school reform gets enhanced only when community members find 'meaning' in the reform and their participation. Otherwise, the parents' community looks for immediate gain and makes 'egocentric' (see Bainbridge & Del Negro, 2020) expectations from schools. 'Teach our child extra English subject instead of local curriculum and make them able to secure good exam marks' expectations of parents, which teachers often shared in the project school was its example. Such tendencies to seek a solution for the immediate problem without realizing the meaningful purpose of education are anti-ecological and against the principle of transformative sustainability (see Burns, 2015; Hathaway, 2017). If so, coming out from the linearly closed 19th-century mechanical box, acknowledging school as a 'living system,' and designing it to foster 'sustained happiness' (O'Brien, 2013) may bring 'life' and 'place' in the school. Bainbridge and Del Negro (2020) refer to this process as an ecology of transformative learning, while Burns (2015) labels similar consequences as transformative sustainability.

Conclusion

Overall, this study suggests that the sustainability of pedagogy, specifically contextualized, situated, and outdoor teaching and learning, which focuses on the local curriculum with an emphasis on 'cultural fit' and negotiation within ongoing school practices, is at odds with ecological principles. When viewed through an ecological lens, the design and implementation of a local curriculum inherently involve an eco-responsive process, requiring openness and flexibility to be effective. Despite these fundamentals, the predominant pedagogy and school design at the examined school (and many others in Nepal) were found to be incongruent with this ecological principle embedded in the local curriculum. This misalignment has impeded the local curriculum's aim for transformative sustainability education. In essence, transformative sustainability education necessitates a change in perspectives and a corresponding transformation in practice, encompassing overall pedagogical design and schooling architecture.

Consequently, the study underscores the significance

of pedagogical innovation, reflective practices leading to changed perspectives, and the sustained continuation of these innovations, aligning with the ongoing redesigning of the school's educational framework. To achieve this, educators intending to contextualize teaching and learning through the local curriculum may need to transcend the prevailing mechanistic worldview and adopt ecological principles of openness and flexibility. The research findings have implications for curriculum policymakers and school leaders contemplating educational reforms, especially in the development and implementation of local curriculum in schools within Nepal and other global contexts. It emphasizes the need to carefully assess the compatibility of schooling design with the principles of the curriculum to foster a harmonious and effective learning environment.

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