Nepal • Rupantaran whole school community research and development partnership

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Nepal, located in South Asia, has a population of just over 30 million . In order to move forward from theory-based learning, Nepal developed a National Curriculum Framework in 2018 which focused on developing an integrated curriculum from Grade 1 to 3. Education has been regarded as the foundation of all infrastructures in achieving the country's long-term vision "Prosperous Nepal, Happy Nepali" by 2043 (MOEST, 2019[137]). Prosperous Nepal, Happy Nepali, is a motto put forward by then Nepali Prime Minister, KP Sharma Oli. Some of the indicators of the motto are based on improvement in human capital, enhancement of national income, and to provide dignified life. To achieve the objectives of this motto, education is the basic need. As part of this national focus the following contribution, a participatory collaboration between schools and universities, is unique in its focus on 'quality education' (SDG4), innovative teaching and community social enterprises.

Rupantaran research project • Rupantaran, meaning transformation, is a project funded by NORAD (Norwegian Agency for Development Cooperation). Tribhuvan University, Kathmandu University and Norwegian University of Life Sciences have been working together since 2017 to bring changes in 9 schools by summer 2023, contributing new knowledge concerning innovative approaches to improve the quality of teaching and learning in resource-constrained research schools. While the other seven are reference schools, Shree Jana Jiwan Secondary School, based in Chitwan, and Shree Janahit Secondary School, based in Kavre, are the case study schools.

The Rupantaran school-university action research project currently conducts participatory action research in both secondary schools. The schoolteachers have shared ownership of the projects as co-researchers, which is another essence of participatory action research. Although it has been a journey to get to this point, today the teachers do not feel hesitation to collaborate with other teachers, researchers, or associated programs. This was not possible in the beginning and it took some time to build up this level of collaboration. Teachers now plan collaboratively, act collaboratively, observe individually, and reflect individually on any kind of intervention, and more key stakeholders are also involved. It was difficult at the start to bring all the stakeholders to a common understanding and to get them to participate, but after forming committees to overlook different components such as a school nutrition committee and a social entrepreneurship committee, the involvement of the stakeholders was increased. The committees were formed with the involvement of parents of the students

Students in the school garden / Each morning 10 minutes for meditation and yoga

at the school, teachers, school management committee representatives, community representatives and a representative from the local government/ ward office. Our own action research shows that the participatory approach is a way to let the participants gain ownership, actively involve, and sustain the project.

Key WSA Principles in action at *Rupantaran*

Capacity building

- Collaboration of three universities supporting teacher professional development, community partnerships and research
- Community related capacity building connected to school development

Vision, Ethos, Leadership & Coordination

- The case study school visions include a community vision, self-sufficiency and because of this micro-economy development
- Agriculture is part of the vision for the school as this is a big part of the community's identity

Curriculum

- Research informing practice supporting the development of a contextualised and integrated curriculum

Pedagogy & Learning

- Focus on developing Interdisciplinary and collaborative learning
- Place-based, art-based learning
- Co-developing innovative teaching and learning methods using 5 main components; ecological sanitation toilet; school garden; school nutrition; skills-based health education; and social entrepreneurship

Institutional Practices

- Outdoor classroom and kitchen garden
- Urine diversion toilets providing fertiliser for school garden
- Collaborative school meals to encourage healthy eating for the whole school
- 'Happy' Nepal institutional practices, including health and wellbeing aspects

Community Connections

- As well as the teachers, parents and community members also benefiting and learning from the professional development and projects (for example urine diversion fertiliser) Parents and community also supporting transformation at the schools – healthy school meals as an example

History of the case-study schools • Jana Jiwan Secondary School (JJSS) was established in 1960, is a government funded community school, located in Khairahani Municipality, Ward No. 2, Chitwan. (2016 Bikram Sambat). More than two-thirds of the students (68%) are from underprivileged and marginalised caste groups like Adhibasi, Janajati and Dalit. Most of the students belong to working class families who work at the nearby brick kilns and farms (Upreti et. al., 2021[138]). Since 2017, the project has been working together with the school in creating and implementing innovative teaching and learning method through integration of five major components; ecological sanitation toilet, school garden, school nutrition, skills-based health education, and social entrepreneurship. Each component is interconnected to create a contextualised innovative teaching and learning experience for the teachers and the students. The project also intends to replicate the learnings from school in the community around the school catchment area.

Janahit Secondary School (JSS) is a community school established in 1960 (2017 Bikram Sambat), and located in Namobuddha-7, Kavre. Though Kavre is a municipality, the school is in a rural setting rich in ethnic and socio-cultural diversity. Parbate community (Brahman, Chettri, and Dalit), Tamang community, and Newar community share the space, which adds challenges and/or opportunities for teaching, learning, and managing the school. As for religion, people are both Hindu and Buddhist. The main occupation of the people living in the community is agriculture, trade and tourism (Namobuddha, 2022)[139].

This school is working with many school developments connected to a WSA, such as performing a Ecological Sanitation assessment (Ecosan), continued teacher professional development, and developing a localised curriculum that is grounded in concrete local activities. These include mushroom cultivation, aquaculture, pig farming, and the use of hydroponics, as well as connecting these initiative to the national curriculum focusing on Science, Technology, Engineering, Arts and Mathematics[140] (STEAM). With these innovative approaches, policy changes are also advocated for which aim to bring transformation and thus improve teaching and learning.

Below, under the six WSA strands, researchers Roshani Rajbanshi and Nisha Makhim Subba share experiences that outline how the case-study schools have strengthened their understanding and approach to sustainability-oriented education:

Community connections • As a component of the Rupantaran project, the two case study schools were supported to build urine diversion toilets so that the urine could be used as fertiliser in the school garden (after dilution). However, during lockdown, urine collection

could not be done in the school in JSS, Kavre. So, the people at the community collected their urine in their homes and provided it to the school. Also, the members of different committees of the school have been able to take the knowledge they learned through the trainings and exposure visits to other model schools and apply it to their homes. So, not only school gets transformed, but also the community.

Vision, Ethos, Leadership & Coordination • As agriculture is a major occupation of the region, connecting this to the teaching/learning and makes it easy for students to relate to the content (what they are learning). Now, the school's ethos is "study and earn". The school has been growing seasonal vegetables and setting up micro-economies. The students can outdoor activities connected to their course work. Committees who are responsible for the school garden, and the mushroom farming, generate income by selling the products in the local market and the school canteen.

Institutional Practice • The Rupantaran project adopted a participatory approach to work in the schools. Researchers and co-researchers (school stakeholders) work together to improve the situation of the school with focus on sustainability-oriented education (see community connection example for a closed loop system in practice). One example at JJSS, is that the school has been providing mid-day meal for primary level students (grades 1-5) under the budgetary provision of the government. However, the budget was not enough to feed the upper primary level students (grade 6-8). So, the school along with the researcher and representative from the ward office, came up with an innovative idea i.e. 'collaborative school meal' for an initial tripartite arrangement between the Rupantaran project, the Local Government Office, and the parents to share the cost by one third each for each student of upper primary level. The parents and the Local Government Office will share the cost 50:50 when the Rupantaran project end their funding. Another example is that the vegetables and mushrooms grown in the school garden are supplied in the school canteen for a lower price than in the market. This way the students can enjoy the organic grown vegetables while the committee looking after the garden and mushroom shed can sell their produce and receive earnings.

Capacity building • The teachers have taken part in workshops such as; Appreciative Inquiry, Active Teaching Learning; Teacher Professional Development on integrated curriculum; and Basic ICT training. Rupantaran has focus on project-based teaching and learning as an example of active teaching. Project-based teaching is then designed to integrate different subjects to create an integrated curriculum. Capacity building workshops for staff that focus on sensitisation and professionalism take place in both schools. Teachers have also been involved in conducting collaborative professional development through peer-to peer workshops where teachers of the same school provide professional development to other teachers.

Curriculum • Findings from the Rupataran research project have also been used as references in developing the integrated curriculum for Grade 1-3. The schoolteachers are involved in designing lessons in the form of project for project and inquiry-based learning. During lockdown, the teachers have also developed projects for their students relating to Ecosan, mushroom farming, and gardening to ensure two or more subjects or disciplines are intergrated.

Pedagogy & Learning • Rupantaran's central focus has been pedagogical innovations. Teachers have attended several professional development training sessions regarding teaching and learning. Thus, the teachers use;

A new school 'urine diversion' toilet block built after the Ecological Sanitation assessment / Research team with key stakeholders

Janahit Secondary School STEAM club members

project-based teaching & learning; inquiry-based teaching & learning; art-based teaching & learning; STEAM teaching &learning; and participatory school-based nutrition education relating it to Ecosan, gardening, mushroom farming integrating different subjects. Similarly, creating a healthy school environment is also a focus. The teachers and students have been able to use the school garden as a learning space as well as incorporate regular meditation and mindfulness activities into the classroom.

Strengths and Challenges • The infrastructure of the school is one of its advantages as it provided the space to create a school garden as well as mushroom shed for the purpose of learning while earning. Another strong point, and one of the most important attributes, is the feeling of a common goal and vision. Currently, their common goal is to establish the schools as model schools. Active engagement from the community and stakeholders has motivated the school to perform better to achieve their goal. To ensure cultural diversity, people from different ethnic backgrounds were included in the committee and every culture in the community are represented.

The main challenge is the sustainability of the partnership project itself, especially when school staff change. Soon, the school and committee are required to appoint new people in their leading positions, where the newly appointed person may or may not be on the same page as the existing members who had gone through various trainings and workshops. Lastly, following sustainability-oriented education will be challenging when the schools remain closed due to pandemics or other disasters, especially if national mandates stop students being on campus, even teaching outdoors.

Strengths/prospects

- A shared common vision and goal made with the schools' staff
- Pride that comes with becoming a 'leading' school in Nepal
- Different community members and cultures being represented in school development plans

Challenges

- National rules and regulations concerning home schooling during the pandemic making it hard to continue with school gardening and onsite developments
- Ensuring projects continue after initial funding runs out
- School staff changing after the university-school collaboration is finished