

Empowering Primary Teachers Through Collaboration and Innovation: A Case Study of the Teacher led Environmental Education Information Sharing Seminar in Khomas Region

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Abstract

This paper presents a qualitative and quantitative case study of the Khomas Region Teachers' Seminar, a teacher-led professional development and capacity building initiative which promotes Environmental Education (EE) and Education Sustainable Development (ESD) integration into subjects teaching among primary school teachers. The initiative has reached out to 35 schools so far, targeting grade 4-7 teachers. The purpose of this case study was to explore how a teacher-led seminar can strengthen professional development, promote inclusivity, and how primary school teachers integrate the Environmental Education (EE) and Education for Sustainable Development (ESD) into their teaching and learning for sustainability and environmental stewardship. Initiated in 2016 and spearheaded annually by Van Rhyn Primary School, the seminar creates space for teacher collaboration, innovation, and mentorship with the support by UNESCO and other local partners. It has grown from a local platform to a regional professional development and capacity building platform as the number of participants increased over the years. The case study is conceptually grounded in Namibia's EE/ESD and Inclusive Education policies. The initiative aligns with Vision 2030 and offers a sustainable model of teacher-led development across other regions. The findings reveal renewed enthusiasm, demand in continuing with the platform twice a year, increased self-confidence in teachers particularly inspired by motivational sessions delivered by invited speakers. The participants recommended the seminar to continue serving as a means of enriching individuals who may have limited access to information, thereby providing them with exposure to new sources of knowledge.

Introduction

The Khomas Region Annual Teachers Seminar is led by passionate primary teachers from different schools committed to create inclusive spaces for peer learning, reflection, and professional growth. The seminar was initiated at Van Rhyn on a cluster-based level and expanded to other clusters in response to growing demand from teachers who had previously attended. While the seminar is not rooted in formal academic research, it draws strength from lived experience, ongoing classroom practice, and a genuine love for education. The initiative serves as an informal yet impactful platform for professional dialogue and collaborative learning among teachers.

The seminar was inspired by participation in the Vienna and Cape Town Geoscience Workshops, which emphasized the importance of teacher empowerment and knowledge exchange on teaching approaches. These international experiences highlighted the power of teacher-driven development and sparked the idea of creating a local platform that is practical, inclusive, and responsive to classroom realities. Although it is not based on formal academic research, the seminar aligns with the key educational priorities supporting Namibia's Curriculum Reform and the Ministry of Education's emphasis on teacher capacity-building, as outlined in the **Education Sector Strategic Plan 2023–2030**. The seminar also contributes to the goals of **NDP6, Thematic Area 4 (2025/2026 to 2029/30)** under the "**Teach for the Future: Competent, Supported, and Connected Teachers**" strategy. When teachers are better supported and equipped, they are more effective in addressing learners' foundational needs, particularly in literacy and critical thinking.

Framework Policies

The seminar supports key priorities outlined in Namibia's National Development Plan 5 (NDP5), Pillar 3: Social Transformation (quality education and lifelong learning) and Pillar 4: Environmental Sustainability. Furthermore, the initiative contributes directly to the following UN Sustainable Development Goals; Goal 4: Quality Education, Goal 13: Climate Action, and Goal 17: Partnerships.

The Seminar

The seminar brought together a diverse group of educators, experts, and institutional representatives for a dynamic professional development experience focused on Environmental Education (EE) and Education for Sustainable Development (ESD). Motivated by the Khomas Regional Directorate and IUM, inspired teachers pursued excellence, purpose, and personal growth beyond the classroom. Teachers also benefited from subject-based sharing by primary school mathematics educators who demonstrated innovative approaches to teaching key concepts like number sense and fractions. Practical hands-on sessions facilitated by Minds in Action allowed participants to engage in programming electrical circuits on breadboards using computers, promoting active learning in science. Additional presentations from the Ministry of Environment, Forestry and Tourism focused on waste management, while UNESCO and several institutions including IUM, UNAM, CeMEES, and the Ministry of Fisheries delivered insightful presentations on topics such as marine sustainability, ocean literacy, and national ESD policy. A key highlight was the guided educational tour to the National Botanical Garden, where teachers explored Namibia's indigenous flora and reflected on conservation practices. The visit was complemented

by the generous donation of trees to participants, reinforcing environmental stewardship. The seminar concluded with a powerful presentation on integrating indigenous knowledge into science education and collaborative group discussions where teachers shared EE/ESD experiences, identified classroom practices, and reflected on challenges such as limited resources and community support. Altogether, the seminar provided a rich blend of inspiration, experiential learning, and peer exchange aimed at strengthening environmental education practices in Namibian schools.

Methodology and Participation

A mixed-methods approach guided the evaluation of the seminar's impact. Qualitative data were gathered through teacher reflections, open-ended feedback on presentations, and group discussions. Group activities focused on identifying effective EE/ESD practices, sharing implementation strategies, and highlighting common challenges. Quantitative data included participant attendance records and post-seminar surveys capturing teachers' self-reported gains in confidence, knowledge, and motivation. The hands-on sessions, site visit, and motivational talks were not only learning moments but also points of data collection, with facilitators observing engagement levels and noting themes emerging from teacher interactions. These methods allowed for triangulation of data, providing both depth and breadth in the evaluation of the seminar's effectiveness. Since its inception, the seminar has reached over 218 primary school teachers from 35 schools in Khomas Region on a rotational basis of "first come first served" yearly. Growth of teacher presenters from **1 in 2016 and 2017** has remarkably increased to 5 in **2024 to 10 in 2025**. The targeted group of participants was both new (novice) and experienced primary schools teachers (including Visually and Hearing Impairment schools) promoting inclusive participation. Presenters were being invited based on their field expertise according to the theme of the year.

Findings, Data Analysis and Discussion

The seminar data drawn from both participant questionnaires and structured group discussions, provided deep insight into the seminar's effectiveness and impact. Feedback from 85% of participants showed strong satisfaction with the content and relevance of the sessions. Over 90% expressed a strong desire for the seminar to be repeated and expanded to other regions to promote inter-school and inter-regional collaboration, citing its value in promoting professional development, cross-regional collaboration, and classroom innovation. Group discussions focused on four key thematic areas: *sharing EE/ESD experiences, good classroom practices, impact on student learning, and challenges faced in implementation*. Participants identified a wide range of methods to share EE/ESD, including learner-created printed media, online platforms, distribution of booklets, environmental clubs, joint school events, and inviting external organizations to engage with schools. Strategies such as nature-based excursions, cleaning campaigns, and networking activities were also seen as effective outreach tools.

As summarized in Table 1 below, teachers shared numerous methods for integrating EE/ESD into their schools and classrooms, including planting trees, recycling campaigns, and environmental clubs.

| Discussion Aspect | Key Insights and Responses from Participants |
|--|---|
| 1. Sharing EE and ESD Experiences | <ul style="list-style-type: none"> • Use of online platforms and printed media by learners • Organize seminars and distribute EE/ESD materials • Invite environmental organizations • Conduct nature excursions and cleaning campaigns |
| 2. Good Practices in Classrooms | <ul style="list-style-type: none"> • Integrate EE in the curriculum • Establish school gardens and environmental clubs • Conduct recycling competitions and water-saving campaigns • Promote reuse and the 3Rs (Reduce, Reuse, Recycle) |
| 3. Impact on Student Learning and Awareness | <ul style="list-style-type: none"> • Improved environmental responsibility • Development of critical thinking and problem-solving • Greater appreciation of sustainability and healthy living |
| 4. Challenges Faced by Teachers | <ul style="list-style-type: none"> • Lack of funds, resources, and logistics • Limited knowledge and support • Resistance from some staff and low community involvement |

Table 1: Summary of Group Discussion Themes and Key Insights

The Mindsinaction activity, in particular, was praised for demonstrating how abstract science concepts can be taught through accessible, hands-on approaches. The guided botanical garden tour was widely regarded as a highlight, offering experiential insight into conservation education. Teachers expressed a strong sense of ownership after receiving tree donations and voiced commitment to launching greening campaigns in their schools. Presentations on ocean literacy and indigenous knowledge sparked interest in diversifying lesson content and adopting more inclusive teaching practices. However, recurring challenges emerged, such as limited teaching resources, lack of administrative support, and uneven teacher motivation. Participants called for

regular inter-school collaboration, resource-sharing mechanisms, and follow-up capacity-building sessions to sustain momentum. Analysis of the seminar data revealed that teachers highly valued the motivational talks, which many cited as personally and professionally uplifting. Participants appreciated the integration of practical sessions and subject-specific innovations, noting an increased confidence in applying similar methods in their own classrooms.

Insights Gained

Several teachers acknowledged their limited knowledge about the environment, revealing that they encountered new information about environmental institutions and organizations for the first time during the seminar. Many expressed newfound openness and a willingness to initiate environmental initiatives within their schools following the three-day event. As a peak of their participation, teachers were presented with certificates marking their completion of the program.

Challenges of the Initiative and Future Plans

While the seminar successfully fostered collaboration, innovation, and professional growth among educators, several challenges limited the full potential of the initiative. The main one among these were financial constraints, which restricted broader participation and limited the provision of materials and logistical support for hands-on activities. Additionally, the uneven levels of environmental knowledge among teachers, low engagement from school management as indicated by some participants, and lack of parental and community involvement emerged as barriers to the consistent implementation of EE/ESD in schools. Resistance to change and limited access to resources such as seeds, tools, and informational materials further hindered follow-up activities at the school level. To address these challenges, the organizing committee plans to strengthen partnerships with environmental agencies, NGOs, and local businesses to improve resource mobilization and sponsorship. Future seminars aim to include a wider network of educators by expanding to other regions and integrating more localized, practical experiences.

Conclusion

The Khomas Region Teachers' Seminar demonstrated the power of collaborative, hands-on, and contextually relevant professional development. Through motivational talks, practical workshops, site visits, and cross-sectoral presentations, teachers were not only equipped with new knowledge and tools but were also inspired to integrate Environmental Education and Education for Sustainable Development meaningfully into their classrooms. The seminar highlighted both the opportunities and challenges facing teachers to integrate EE and ESD into their lessons. While there is clear enthusiasm and evidence of effective practices, sustained impact will require ongoing support, resource provision, and continuous professional learning. Building on this momentum, the seminar proposes formalizing these platforms for ongoing collaboration and compiling best-practice toolkits that are easily accessible to support a wider network of educators.

Recommendations and implications

Based on the findings and reflections from the seminar, the following recommendations are proposed to strengthen the impact and sustainability of Environmental Education (EE) and Education for Sustainable Development (ESD) initiatives:

1. The seminar should continue to serve as a means of enriching individuals who may have limited access to information, thereby providing them with exposure to new sources of knowledge.
2. Encouragement for more organizations to join initiatives like this, following the example set by UNESCO, to support and enhance educational programs.
3. Conduct teachers' professional development sessions on Environmental Education (EE) and Education for Sustainable Development (ESD) such as this twice a year to continually enhance their skills and knowledge in these areas.
4. Encourage teachers to visit wildlife resorts to acquire skills and experiences that they can later impart to Namibian children as environmental stewards.
5. Environmental institutions/teachers visit schools more frequently to provide ongoing support and resources.
6. The organizing committee should arrange workshops and camps in collaboration with CeMEES to further facilitate learning and skill development.
7. Teachers expressed a desire for the seminar to continue as a platform for teachers to engage with each other, share knowledge, and explore deeper into specific topics of interest in various subjects area.

With growing interest across the region, the initiative is positioned to become a national model for professional learning aligned with sustainability goals.

References

- Ministry of Education, Arts and Culture. (2016). National Curriculum for Basic Education. Government of Namibia.
- Republic of Namibia. (2017). Fifth National Development Plan (NDP5) 2017/18–2021/22. <https://www.npc.gov.na>
- UNESCO. (2014). Shaping the future we want: UN Decade of Education for Sustainable Development (2005–2014) final report. UNESCO Publishing.
- UNESCO. (January 2017 Last update: 25 July 2023). Education for Sustainable Development Goals: Learning objectives. <https://www.unesco.org/en/articles/education-sustainable-development-goals-learning-objectives>
- United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. <https://sdgs.un.org/2030agenda>
- Van Rhyn Primary School. (2022–2024). Khomas Region Teachers' Seminar Evaluation Reports (Unpublished internal documents).