



International Journal of Education, Literacies, and Curriculum Studies

ISSN: 3116-2991

Volume 2 Issue 2- 2026

<https://ijelcs.minduraresearch.com/journal/index>

Science Teachers' Lived Experiences in Implementing Contextualized Instruction Among Grade 9 Learners in a Geographically Isolated Secondary School Setting: The Case of Palanan National High School

Gerald R. Lopez

Northeastern College, Santiago City, Philippines

Palanan National High School

gerald.lopez@deped.gov.ph

Dr. Alma Gonzales

Northeastern College, Santiago City, Philippines

almag0400@gmail.com

ABSTRACT

This qualitative phenomenological study explored Science teachers' lived experiences in implementing contextualized instruction among Grade 9 learners in a geographically isolated secondary school setting at Palanan National High School. Specifically, the study examined teachers' contextualized pedagogical practices, instructional challenges, learner participation, and perceived influence of contextualized instruction on Science learning experiences. Data were gathered through semi-structured in-depth interviews with twelve purposively selected Grade 9 Science teachers. Thematic analysis following Braun and Clarke's framework was utilized in analyzing the data. Findings revealed that teachers utilized localized examples, indigenous knowledge, environmental experiences, community-based applications, and real-life situations to make Science concepts more understandable and meaningful for learners. Participants observed that contextualized instruction improved learner engagement, participation, comprehension, and classroom interaction by connecting lessons to familiar community experiences. However, teachers also encountered challenges related to limited instructional resources, geographical isolation, inadequate laboratory facilities, and difficulties in accessing updated instructional materials. Despite these challenges, participants demonstrated instructional adaptability, creativity, and resourcefulness in contextualizing Science instruction using available local resources and experiential learning activities. Teachers further emphasized the importance of culturally responsive teaching, learner-centered instruction, and community-based learning in strengthening Science education within geographically isolated school settings. The findings underscore the importance of contextualized and localized pedagogical practices in promoting meaningful Science learning among secondary learners in geographically isolated communities.

Keywords: contextualized instruction, Science education, geographically isolated schools, localized teaching, learner engagement, qualitative research, secondary education

Received: 03-02-2026

Revised: 03-23-2026

Accepted: 05-30-2026

Published: 06-05-2026

ISSN:3116-2991





International Journal of Education, Literacies, and Curriculum Studies

ISSN: 3116-2991

Volume 2 Issue 2- 2026

<https://ijelcs.minduraresearch.com/journal/index>

Introduction

Science education plays a critical role in developing learners' scientific literacy, critical thinking, environmental awareness, and problem-solving competencies. In secondary education, effective Science instruction enables learners to understand scientific concepts, connect learning to real-life situations, and apply scientific knowledge in addressing everyday concerns. Consequently, instructional approaches that promote meaningful and relevant learning experiences are essential in improving learner participation and conceptual understanding.

Contextualized instruction has emerged as an important learner-centered pedagogical approach that connects lesson content to learners' local experiences, culture, environment, and community realities. Through contextualization, teachers integrate familiar examples, localized situations, indigenous knowledge, and community-based experiences into classroom instruction to make learning more relevant and meaningful. In Science education, contextualized instruction helps learners better understand abstract concepts by relating them to observable phenomena and real-life experiences within their immediate environment.

In geographically isolated and disadvantaged school settings, contextualized instruction becomes particularly significant because learners often experience limited access to educational resources, laboratory facilities, and technological infrastructure. Schools located in remote communities commonly face instructional challenges associated with geographical isolation, limited educational materials, transportation difficulties, and insufficient institutional support. Teachers in these settings are therefore expected to demonstrate adaptability, creativity, and resourcefulness in delivering effective Science instruction despite contextual limitations.

Public secondary schools in geographically isolated areas also serve learners whose educational experiences are shaped by local culture, livelihood practices, environmental conditions, and community realities. Consequently, integrating contextualized and culturally responsive instruction becomes essential in strengthening learner engagement and participation in Science learning.

Despite increasing advocacy for contextualized education in the Philippine educational system, limited qualitative studies explore Science teachers' lived experiences in implementing contextualized instruction within geographically isolated secondary school contexts. Understanding teachers' experiences is essential in identifying pedagogical realities, instructional innovations, and contextual challenges that influence Science instruction in remote educational settings.

This study explored Science teachers' lived experiences in implementing contextualized instruction among Grade 9 learners in a geographically isolated secondary school setting at Palanan National High School. Specifically, it examined teachers' pedagogical practices, implementation challenges, learner participation, and perceived instructional outcomes associated with contextualized Science teaching.

Objectives of the Study

This study aimed to:

1. Explore Science teachers' lived experiences in implementing contextualized instruction among Grade 9 learners;



2. Examine instructional challenges encountered in contextualized Science teaching within a geographically isolated school setting; and
3. Identify perceived learner outcomes and pedagogical practices associated with contextualized Science instruction.

Review of Related Literature

Contextualized instruction significantly improves learner engagement, conceptual understanding, and meaningful learning experiences in Science education. According to Geneva Gay, culturally responsive and contextualized teaching strengthens learner participation by connecting instruction to learners' experiences, culture, and local realities. Contextualized learning promotes relevance and deeper understanding of academic concepts.

Research by Johnson (2019) emphasized that Science instruction becomes more effective when teachers integrate local environmental conditions, community experiences, and practical applications into classroom discussions. Learners demonstrate improved motivation and comprehension when lessons are linked to familiar situations and observable phenomena.

In geographically isolated school settings, contextualized instruction also addresses resource limitations and educational accessibility concerns. Studies by Ainscow (2020) highlighted that adaptive and learner-centered pedagogical approaches improve participation and engagement among learners in disadvantaged educational environments. Teachers' creativity and instructional adaptability significantly influence effective learning experiences within resource-constrained settings.

Theoretical Framework

The study was anchored on Vygotsky's Social Constructivist Theory (1978), which emphasizes learning through social interaction, contextual experiences, and guided participation. The framework guided the exploration of contextualized Science instruction and learner engagement within community-based educational environments.

The study also utilized Experiential Learning Theory by David A. Kolb (1984), which explains that meaningful learning occurs through concrete experiences, reflection, and practical application of knowledge.

Methodology

This study employed a qualitative phenomenological research design to explore Science teachers' lived experiences in implementing contextualized instruction among Grade 9 learners at Palanan National High School. Phenomenology was appropriate because it enabled the researcher to understand teachers' instructional experiences, contextual teaching practices, and classroom realities within a geographically isolated educational setting.

The participants consisted of twelve purposively selected Grade 9 Science teachers. Inclusion criteria required participants to: (1) currently teach Grade 9 Science; (2) implement contextualized instructional practices; and (3) be willing to share their instructional experiences and perceptions regarding



contextualized Science instruction.

Data were gathered through semi-structured in-depth interviews focusing on instructional strategies, contextualized teaching experiences, learner participation, implementation challenges, and perceived learning outcomes. Ethical considerations including informed consent, confidentiality, anonymity, and voluntary participation were strictly observed throughout the conduct of the study.

The gathered data were analyzed using Braun and Clarke's (2006) thematic analysis framework. Interview transcripts were transcribed, coded, and categorized to identify recurring meanings, patterns, and themes related to contextualized instruction and Science learning experiences. Trustworthiness was established through member checking, triangulation, audit trails, and thick description.

Results and Findings

Theme 1: Making Science Concepts Meaningful Through Localized and Community-Based Examples

Participants consistently described contextualized instruction as an effective pedagogical strategy in making Science concepts more understandable, relatable, and meaningful for Grade 9 learners in a geographically isolated school setting. Teachers explained that integrating local environmental situations, community experiences, indigenous practices, and livelihood-related examples into classroom discussions enabled learners to connect abstract scientific concepts to their everyday realities.

One participant shared:

“Mas naiintindihan ng learners ang Science concepts kapag iniuugnay sa kanilang environment at community experiences.”

Another teacher explained:

“Ginagamit namin ang local examples at actual situations dito sa Palanan para mas maging relatable ang lessons.”

Participants described contextualizing lessons through discussions related to fishing activities, coastal ecosystems, weather conditions, agricultural practices, forest resources, and local environmental concerns commonly experienced within the community. Teachers observed that learners became more responsive and interested when classroom instruction reflected familiar situations and observable phenomena from their surroundings.

One participant remarked:

“Kapag halimbawa ay tungkol sa climate o ecosystem, mas naiintindihan nila kapag local environment ang ginagamit naming example.”

Another teacher stated:

“Mas nagiging meaningful ang lesson kapag nakikita nila ang application nito sa kanilang araw-araw na buhay.”

Participants further emphasized that contextualized instruction improved learner participation because students were more comfortable discussing topics connected to their lived experiences. Teachers observed that learners became more willing to ask questions, share observations, and participate in discussions when they could relate the lessons to local realities and community practices.

One participant explained:

“Mas nakakapag-share sila ng ideas kapag familiar ang situation na dinidiscuss sa lesson.”

Participants also noted that contextualized instruction strengthened learners' appreciation of Science by



helping them recognize its relevance to community life, environmental sustainability, and local livelihood activities.

The findings suggest that localized and community-based instruction strengthens conceptual understanding, classroom participation, and meaningful learning experiences in Science education. These findings support Geneva Gay (2018), who emphasized that culturally responsive and contextualized teaching improves learner engagement by connecting instruction to learners' experiences and social realities. Similarly, Johnson (2019) explained that contextualized instruction promotes deeper understanding and meaningful learning by relating academic content to real-world situations familiar to learners.

Theme 2: Increasing Learner Engagement Through Experiential and Contextualized Activities

Teachers emphasized that experiential and contextualized learning activities significantly improved learner engagement, curiosity, participation, and classroom interaction during Science instruction. Participants described utilizing field observations, improvised experiments, environmental exploration, collaborative learning activities, and community-based tasks to support active and meaningful Science learning experiences.

One participant remarked:

“Mas active ang learners kapag experiential at connected sa real-life situations ang activities.”

Another teacher stated:

“Kapag nakikita nila mismo ang application ng lesson sa paligid nila, mas interested silang matuto.”

Participants observed that learners demonstrated greater enthusiasm and participation when Science activities involved direct observation of natural phenomena, environmental exploration, and practical applications within their community surroundings. Teachers explained that learners became more attentive and motivated when they engaged in hands-on and inquiry-based activities rather than relying solely on textbook discussions and lectures.

One participant explained:

“Mas nae-engganyo silang matuto kapag may actual observation at exploration activities.”

Another teacher shared:

“Kapag experiential ang lesson, mas marami silang tanong at mas active sa discussions.”

Participants also described how collaborative activities and contextualized investigations strengthened learners' confidence and communication skills during classroom interactions. Teachers observed that learners participated more actively during group tasks because they felt more connected to the lesson content and practical experiences.

One participant remarked:

“Mas confident silang mag-participate kapag naiintindihan nila ang lesson through actual experience.”

Participants further emphasized that contextualized and experiential instruction encouraged learners to become more curious, observant, and reflective regarding environmental and scientific issues within their community.

The findings indicate that experiential and contextualized instruction significantly strengthens learner engagement, participation, curiosity, and classroom interaction in Science learning. These findings align



with David A. Kolb's Experiential Learning Theory, which explains that meaningful learning occurs through direct experience, observation, and practical application. Similarly, Freeman et al. (2019) found that active and experiential learning approaches improve learner engagement, participation, and conceptual understanding in Science education.

Theme 3: Navigating Instructional Challenges in a Geographically Isolated School Setting

Participants identified geographical isolation, limited laboratory facilities, insufficient instructional materials, unstable internet connectivity, transportation difficulties, and restricted access to updated educational resources as major instructional challenges affecting Science teaching in the school setting. Teachers explained that these limitations significantly influenced classroom instruction, lesson preparation, and implementation of laboratory and technology-assisted activities.

One participant shared:

“Mahirap minsan magturo ng Science kapag kulang ang laboratory equipment at materials.”

Another teacher explained:

“Dahil geographically isolated ang school, limitado rin ang access sa updated resources at internet.”

Participants described difficulties in conducting laboratory experiments because of inadequate Science equipment, limited chemicals, and insufficient laboratory facilities. Teachers also explained that geographical isolation affected the availability of updated teaching resources, educational technologies, and instructional references necessary for effective Science instruction.

One participant remarked:

“Minsan kailangan naming mag-improvise kasi hindi sapat ang laboratory resources.”

Another teacher stated:

“Mahina rin minsan ang internet kaya nahihirapan kaming gumamit ng online materials.”

Participants further emphasized transportation and accessibility concerns associated with the remote location of the school. Teachers explained that obtaining instructional materials and participating in professional development programs became more difficult due to distance and transportation limitations.

One participant explained:

“Mahaba at mahirap ang travel kaya limitado rin ang access sa seminars at additional resources.”

Teachers also highlighted challenges in preparing contextualized instructional materials because of limited printing resources, technological constraints, and lack of ready-made localized Science materials aligned with the curriculum.

Despite these concerns, participants continued implementing contextualized and learner-centered instructional approaches through improvisation and creative adaptation.

The findings suggest that geographical isolation and limited educational resources significantly affect Science instruction, instructional preparation, and classroom implementation. These findings support Ainscow (2020), who emphasized that resource limitations and educational inequities remain major concerns in geographically disadvantaged school settings. Similarly, OECD (2019) highlighted that limited infrastructure and instructional accessibility affect the quality of teaching and learning experiences in remote educational communities.



Theme 4: Demonstrating Instructional Adaptability and Resourcefulness in Contextualized Teaching

Despite instructional limitations and geographical challenges, participants consistently demonstrated adaptability, creativity, resilience, and resourcefulness in implementing contextualized Science instruction. Teachers explained that they improvised instructional materials, utilized local environmental resources, modified laboratory activities, and adapted teaching strategies according to available classroom conditions and community contexts.

One participant remarked:

“Kailangan talagang maging resourceful at creative sa pagtuturo dito.”

Another teacher stated:

“Ginagamit namin ang available resources sa community para maituro nang maayos ang Science concepts.”

Participants described using locally available materials such as plants, rocks, soil samples, recyclable materials, and environmental resources to conduct improvised experiments and demonstrations. Teachers emphasized that resourcefulness became necessary in sustaining effective Science instruction despite limited institutional support and laboratory facilities.

One participant explained:

“Kahit limited ang materials, gumagawa kami ng paraan para maging interactive pa rin ang lessons.”

Another teacher shared:

“Inaangkop namin ang activities sa available resources para matuloy pa rin ang experiential learning.”

Participants also emphasized collaboration among teachers, community involvement, and peer support in developing contextualized learning activities and instructional materials. Teachers observed that cooperation among educators strengthened innovation and instructional problem-solving within the geographically isolated school setting.

One participant remarked:

“Malaking tulong ang collaboration at sharing of ideas among teachers.”

Participants further highlighted the importance of patience, flexibility, and learner-centered instruction in addressing learners' varying educational needs and contextual realities.

The findings highlight the importance of teacher adaptability, creativity, collaboration, and learner-centered pedagogical practices in geographically isolated educational settings. These findings align with Vygotsky's Social Constructivist Theory, which emphasizes adaptive and socially responsive teaching practices in promoting meaningful learning experiences. Similarly, Florian and Black-Hawkins (2011) emphasized that teacher flexibility and inclusive pedagogical adaptability significantly improve learner participation and educational accessibility in diverse learning contexts.

Discussion

The findings revealed that contextualized instruction significantly improves learner engagement, conceptual understanding, and classroom participation among Grade 9 learners in geographically isolated school settings. Localized examples, experiential activities, and community-based applications helped learners connect Science concepts to their actual experiences and environmental realities.

Despite instructional challenges related to geographical isolation, limited resources, and technological constraints, teachers demonstrated pedagogical adaptability through improvised instructional materials,



International Journal of Education, Literacies, and Curriculum Studies

ISSN: 3116-2991

Volume 2 Issue 2- 2026

<https://ijelcs.minduraresearch.com/journal/index>

contextualized activities, and learner-centered teaching approaches. Participants emphasized the importance of culturally responsive and experiential instruction in making Science education more meaningful and accessible.

The study further highlights the importance of contextualized and community-responsive Science instruction in strengthening participation and meaningful learning among learners in geographically isolated communities.

Conclusion

The study concluded that Science teachers at Palanan National High School perceive contextualized instruction as an effective pedagogical approach that strengthens learner engagement, conceptual understanding, and classroom participation among Grade 9 learners. Localized examples, experiential learning activities, and community-based applications significantly improve the relevance and meaningfulness of Science instruction.

Despite challenges related to geographical isolation, limited laboratory facilities, insufficient instructional resources, and technological limitations, teachers demonstrated creativity, adaptability, and resourcefulness in contextualizing Science instruction using locally available materials and environmental experiences.

The findings underscore the importance of strengthening contextualized and learner-centered Science instruction, particularly within geographically isolated and resource-constrained educational settings.

Implications of the Study

The findings may guide school administrators, Science educators, and policymakers in strengthening contextualized and culturally responsive instructional practices in geographically isolated schools. Schools may further enhance community-based learning programs, localized instructional materials, and teacher training initiatives related to contextualized Science education.

The study also highlights the importance of improving laboratory facilities, technological accessibility, and institutional support systems in geographically isolated educational settings.

Future studies may further examine the long-term effects of contextualized Science instruction on learners' academic achievement, scientific literacy, and environmental awareness across diverse educational contexts.

References

- Ainscow, M. (2020). *Promoting inclusion and equity in education: Lessons from international experiences*. Routledge.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Geneva Gay. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press.
- Johnson, E. B. (2019). *Contextual teaching and learning: What it is and why it's here to stay*. Corwin Press.
- David A. Kolb. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.



International Journal of Education, Literacies, and Curriculum Studies

ISSN: 3116-2991

Volume 2 Issue 2- 2026

<https://ijelcs.minduraresearch.com/journal/index>
