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Junior High School Teachers' Experiences in Contextualizing Science Instruction

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Abstract
Aim: Contextualization in science education involves making lessons relevant to students' daily lives and community, thereby enhancing engagement and understanding. This qualitative study aimed to explore how junior high school science teachers perceive and implement contextualization strategies to make science lessons more relevant and engaging for students.
Methodology: This research utilized a phenomenological design to obtain in-depth insights into the perspectives, practices, and challenges faced by junior high school science teachers in implementing contextualization.
Results: The study found that teachers' perceptions of contextualization significantly influence their instructional approaches in science education. Many teachers acknowledge its importance in making science lessons more relatable by integrating real-life contexts, local materials, and community elements. However, their familiarity with contextualization varies, with professional development activities and resource availability playing a crucial role in enhancing their understanding. Effective implementation of contextualization was associated with increased student engagement, motivation, and active participation. Conversely, challenges such as limited materials, subject-specific difficulties, and logistical constraints hinder their adoption.
Conclusion: Based on the findings, the study concluded that contextualization played a crucial role in enhancing science education by making lessons more meaningful and engaging for students. The study recommended targeted training for teachers on contextualization in education and the integration of instructional resources, materials, and activities tailored to more complex topics. Furthermore, the use of customized resources and ongoing support proved to be more effective in implementing contextualization strategies. This study underscored the importance of adopting a contextualized approach to promote better student understanding and increased interest in the subject.
Keywords: *Contextualization; Junior high school science teachers, Science instruction*

INTRODUCTION

With the rapid spread of technology and the increasing mobility of people, there is a growing need for education systems to adapt and respond to diverse cultural, linguistic, and social contexts. This is where the concept of contextualization in education becomes crucial. Contextualization is the mechanism that connects the material and temporal world to the world of ideas through an experience or through a series of identifiable experiences (Giamellaro, 2017). It involves adapting educational content, teaching methods, and learning materials to suit the unique needs and circumstances of different communities and cultures. As emphasized by Dulay et al. (2025), meaningful teaching must reflect learners' realities, anchoring lessons in situations that resonate with students' daily lives and environments.

In science education, learning extends beyond memorizing facts and formulas—it is about understanding the world around us. Contextualizing science instruction has become increasingly relevant, particularly in response to pressing environmental, scientific, and health issues worldwide, as well as the ongoing shift toward prioritizing essential content over mere coverage (Karisan & Zeidler, 2017). This approach aligns with educational reforms that support the development of STEM competencies through relevant, real-world applications (Fortus & Krajcik, 2020). As Carvajal et al. (2025) suggest, a research-engaged school culture empowers teachers to adapt pedagogical strategies based on their learners' contexts, fostering higher student engagement and performance.

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The Department of Education (DepEd) has acknowledged the value of contextualized learning through initiatives such as teacher training programs, the development of localized instructional materials, and the implementation of contextualized assessment tools. These efforts emphasize both localization—linking curriculum content to community-specific resources—and indigenization—highlighting the cultural and socio-historical identities of learners' communities (Department of Education, 2016). Aranza, et al. (2024) stress that effective leadership in schools also plays a critical role in supporting such efforts, especially when navigating the challenges of diverse classroom environments.

The 2022 Programme for International Student Assessment (PISA) results underscored the urgent need to improve the academic performance of Filipino students. The average performance in mathematics, reading, and science remained stagnant compared to 2018. While a reduction in the performance gap between the highest- and lowest-performing students in mathematics was observed, no significant change occurred in reading and science ("PISA 2022 Results (Volume I)," 2023). To address these concerns, DepEd issued Order No. 050 s. 2020, outlining the Professional Development Priority Needs of teachers and school leaders for academic years 2020–2023. In particular, under the PPST Domain 3: Diversity of Learners, teachers are urged to develop strategies that cater to the unique learning needs of students with disabilities and those from marginalized backgrounds.

Additionally, as stated in DepEd Regional Memorandum No. 356 S. 2023, one of the instructional challenges teachers face is the integration of real-life contexts and interdisciplinary methods across subjects. Supporting this direction, Uy (2023) introduced the GMRCE (Gamification, Modeling, Rewarding, Cognitive teamwork, and Explicit timing) Learning Model, which significantly improved learners' conceptual understanding and attitudes toward science—specifically Gas Laws—in a Philippine public high school. The model demonstrates the effectiveness of contextualized instruction in enhancing learner outcomes. Locally, a needs assessment conducted by Samar National School (2022) highlighted the urgent requirement for teachers to design and implement instructional strategies that respond to the complex educational needs of learners in difficult circumstances. This includes the ability to contextualize both content and pedagogy, which remains a challenge for many teachers in the region.

Observations made by the researchers reveal that substantial difficulties persist in implementing contextualized science instruction effectively, particularly in a public high school in Samar. Given the limited literature exploring the lived experiences of junior high school science teachers in the practice of contextualization, this research sought to examine how science teachers in Samar perceive, adapt to, and navigate these instructional challenges. This exploration is vital in understanding the gaps and generating practical insights for enhancing contextualized teaching.

Objectives

The purpose of the study is to explore the experiences of junior high school science teachers in contextualizing science instruction.

Specifically, it sought answers to the following questions:

1. What are the actual experiences of the Junior High School Teachers in contextualizing science instruction?
2. What challenges do junior high school teachers face in contextualizing science instruction?
3. What adaptive strategies do public junior high school science teachers employ in overcoming challenges in contextualizing instruction?

METHODS

Research Design

This study utilized a qualitative, descriptive phenomenological approach to explore junior high school teachers' experiences in contextualizing science instruction. Descriptive phenomenology is particularly suited for understanding in-depth lived experiences, especially in educational contexts where personal perspectives offer meaningful insights into pedagogical practices (Leigh-Osroosh, 2021). This approach aligns with current educational research trends that seek to capture authentic experiences from stakeholders (Carvajal et al., 2025). The primary data collection methods included in-depth interviews and classroom observations, enabling a deeper understanding of how contextualization is enacted in science teaching.

Population and Sampling

The research was conducted at Samar National School and focused on science teachers actively implementing contextualized instruction in junior high school science subjects. A purposive sampling method—a

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widely used non-probability sampling technique—was employed to deliberately select participants who met clearly defined inclusion criteria. These included: (1) junior high school science teachers currently handling science subjects, (2) at least one year of teaching experience, (3) whether they had received training or not related to contextualization in science instruction, (4) inclusion of both division writers and non-writers of contextualized learning materials, and (5) willingness to participate in the study.

Teachers who were not currently handling science subjects, had less than one year of teaching experience, or were unwilling to be interviewed were excluded. A total of six qualified participants were initially selected. After conducting the interviews and classroom observations, the researchers determined that data saturation had been achieved, a key criterion for ensuring depth and completeness in qualitative research (Amihan, et al., 2023).

Instruments

To strengthen the validity of the findings through triangulation, the researchers employed both in-depth interviews and classroom observations. The Science Contextualization Teaching Observation Guide was used to systematically assess instructional practices based on specific indicators marked as either "observed" or "not observed." This multi-tool approach is consistent with recommendations for using diverse data sources in qualitative educational research to obtain a holistic view of teaching practices (Carvajal et al., 2023).

Data Collection

Prior to data collection, formal approvals were secured from the School Principal, the Science Department Head, and the selected participants. The researchers then conducted audio-recorded, semi-structured interviews alongside classroom observations to gather rich and contextual data. This dual-method approach allowed for a more comprehensive exploration of the teachers' perceptions and actual classroom practices, consistent with best practices in qualitative research studies (Pangilinan, 2025).

Data Analysis

The qualitative data were analyzed using Braun and Clarke's (2022) thematic analysis framework, as facilitated by Morgan's (2022) document analysis approach. The process involved repeated readings of collected materials such as lesson plans, field notes, and instructional documents, followed by detailed coding and thematic categorization. Significant statements were highlighted to reveal recurring patterns and underlying themes. This method of analysis allowed the researchers to construct a nuanced thematic interpretation of the participants' experiences in contextualizing science instruction (Carvajal, et al., 2023).

Ethical Considerations

The researchers ensured strict adherence to ethical standards in all phases of the study. Before initiating data collection, written approval was secured from school authorities and informed consent was obtained from all participants. Interviews and observations were scheduled at mutually agreed times. All interviews were digitally recorded, with prior consent, to enable accurate transcription, in accordance with the Data Privacy Act of 2012.

To maintain confidentiality, pseudonyms were assigned during data transcription and analysis. The identities of the participants were known only to the researchers and were kept confidential throughout the study. All data were handled with great care and were securely discarded after the completion of the research process, in alignment with standard ethical protocols for qualitative studies (Carvajal et al., 2024).

RESULTS and DISCUSSION

This section presents the analysis and interpretation of the data gathered from the participants. The findings are organized into emergent themes, each accompanied by a corresponding interpretation and discussion of its implications. The thematic presentation follows the sequence outlined in the study's statement of the problem to ensure coherence and alignment with the research objectives.

1. **Varied views on Contextualization in Science Education**

Themes

Provision for Meaning and Relevance to learners

Utilization of Local Resources

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1.1 Provision for Meaning and Relevance to learners

One key theme that emerged is the participants' belief that contextualization involves making lessons relevant to students' lives by incorporating real-life situations and considering students' experiences when planning lessons. This theme, *Provision for Meaning and Relevance to learners*, emphasizes the importance of making their scientific concepts meaningful by relating to real-world contexts. The following are the samples of transcription:

> ***Participant 4: "Contextualization in science instruction is relating science topics with what is seen or what is in the community. For example, if lessons are related to acceleration or motion, we can connect that with daily activities of students like commuting through tricycles or if they are using bicycles in that way, it is already related to their daily scenarios."***

> ***Participant 7: "It is a kind of a process wherein we teachers give a lesson which is relevant, useful in the sense that they have to associate with their experiences, making sure that their lesson will be meaningful, relevant and useful to the students."***

The participants belief in meaning and relevance of contextualization in teaching relate to numerous studies that have demonstrated the integration of local or community knowledge into science education, thereby aligning instructional content with students' familiar contexts.

For instance, Giamellaro (2017) characterizes context-based science education as a teaching approach that focuses on science instruction grounded in the local environment and centered around students' experiences.

The perspectives shared by junior high school science teachers underscore the importance of considering context in science instruction. By embracing contextualization, educators can create more meaningful and impactful learning experiences for their students, ultimately fostering a deeper appreciation and understanding of science.

1.2 Utilization of Local Resources

The second theme reveals that participants emphasize the significance of incorporating materials, information, and community aspects from the immediate environment into their lessons. The following are the samples of transcription:

> ***Participant 1: " Okay so, I think contextualization, that is using tools or materials that are being found in the locality in order that the students can relate the use of those materials and relate it to the concept of science."***

> ***Participant 2: " We involve local materials, local beliefs, and materials available in our community to simplify concepts for the students. When students are truly engaged with the material, they understand the topic better."***

The incorporation of local resources in science instruction serves not only as a pedagogical strategy, but also to foster deeper engagement and comprehension among students. These insights support previous research by Borre (2019) and Wyatt (2016), highlighting the advantages of incorporating local events, anecdotes, and cultural context into science teaching. Both studies emphasize that leveraging local resources enhances student engagement and understanding, making science instruction more relevant and effective.

2. Lack of Familiarity on the Process of Contextualizing Science Instruction

Themes

Uncertainty or Lack of Familiarity

2.1 Uncertainty or Lack of Familiarity

This theme highlights the diverse understanding and familiarity among junior high school science teachers regarding contextualization in science instruction. The following are sample transcriptions:

> ***Participant 1: "There is an idea but not too familiar"***
> ***Participant 2: "The proper process, I think, I'm not that familiar with the correct format, but we are doing the contextualization"***

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Participant 2: "Yes, Ma'am, I am already familiar with contextualization"

This theme highlights varied levels of understanding and familiarity among junior high school science teachers regarding the concept of contextualization in science instruction. Reyes et al. (2019) identified several challenges impeding effective curriculum contextualization, including teachers' limited knowledge, inadequate administrative support, and resource shortages. Additionally, as noted by Bello et al. (2023), many science teachers face difficulties in delivering lessons that are both engaging and relevant to students' lives, particularly in integrating local community contexts and cultural elements into the curriculum. This underscores the need for more comprehensive support and guidance in bridging the gap between theoretical understanding and practical application of contextualization strategies in science instruction.

3. Various Sources of Knowledge in Contextualizing Science Instruction

Themes
Professional Engagement
Local Resource Material

3.1 Professional Engagement

This theme highlights the primary source of participants' understanding of contextualizing science instruction is professional engagement, as highlighted by their experiences with training and seminars. The following are samples of transcription:

Participant 1: "During the seminars or the School Learning Action Cell (SLAC)"
Participant 2: "I obtained that from the seminars that were provided to us, the newly hired teachers from the division where we attended a contextualization seminar, and here in our department, we conducted LAC sessions"

The findings reveal a persistent dependence on institutional resources to assist educators in incorporating local contexts into their instructional practices. The critical role of ongoing support and professional development is reinforced by parallels with prior research, including Reyes et al. (2019). These results are consistent with initiatives implemented by the Department of Education, such as Learning Action Cells (LACs), which promote collaborative professional development among teachers. The focus on curriculum contextualization within LAC sessions aligns with participants' priorities, as they aim to adapt their pedagogical strategies to local contexts (DO 35, S. 2016). Ultimately, these insights emphasize the critical need for accessible and comprehensive resources to support educators in integrating contextualization effectively into their teaching practices

3.2 Local Resource Material

This theme reveals that participants utilize division-specific, localized resource materials—such as the Division Localized Heritage Theme Matrix (DLHTM)—to improve the contextual relevance of their instructional content. The following are samples of transcription:

Participant 1: "The Division Localized Heritage Theme Matrix, that was being introduced to us or even activities or events that happened in the locality"
Participant 2: "We have that what we called DLHTM and we are still using that to apply contextualization"

The findings reveal that participants rely on reference materials and seminars conducted by DepEd for ideas on contextualization, reflecting a broader trend in teaching pedagogies.

These insights highlight the urgent need for accessible and comprehensive resources that can help educators effectively embed contextualization in their lessons. Supporting this, Sambayon et al. (2023) found that using contextualized learning materials significantly improves students' reading skills and understanding, especially for students from diverse cultural and linguistic backgrounds.

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4. Integrated Ways of Implementing Contextualized Science Instruction

Themes

Localization of Content
Use of Physical Games and Activities
Use of Local and Cultural Context

4.1 Localization of Content

This theme highlights the participants' emphasis on the contextualization of instructional content, reflecting a conscious effort to enhance the relevance and significance of lessons for learners. The following are samples of transcription:

> ***Participant 1: "I think the lesson on flowering and non-flowering plants; learners give examples of local plants or flowers and discuss its parts"***
> ***Participant 2: "For example, in Chemistry, combining the two elements or compounds, instead of saying sodium chloride sometimes we are talking about table salt or use local terms instead"***

The results highlight the importance of incorporating local content to make lessons more meaningful and relevant to learners. Consistent with existing literature, which highlights the versatility and effectiveness of contextualization as a pedagogical strategy, these findings suggest that integrating familiar contexts and real-world examples can significantly enhance student engagement, understanding, and retention of complex concepts (Borre, 2019; Sanchez, 2017). Nonetheless, challenges may arise related to ensuring the cultural appropriateness and inclusivity of contextual examples for diverse student populations, necessitating careful selection to accommodate varied backgrounds.

4.2 Use of Physical Games and Activities

The second theme highlights that participants demonstrate a keen interest in incorporating physical movements and local games to facilitate the comprehension of complex scientific concepts. The following are samples of transcription:

> ***Participant 1: "We have the topic of potential and kinetic energy. However, bowling pins are unavailable. Instead, we use a local game called "Tumba Lata," which involves cans and slippers to demonstrate the different types of energy."***
> ***Participant 2: "The topic on projectile motion includes an activity in which students will consider traditional games called 'Laro ng Lahi,' which involve or demonstrate projectile motion."***

The text highlights the strategic incorporation of local games and physical activities as pedagogical tools to elucidate scientific principles. Existing literature corroborates the efficacy of this approach; multiple studies indicate that integrating local and community-based knowledge enhances student engagement and understanding in science education. Giamellaro (2017) advocates for context-based science education, emphasizing the importance of anchoring lessons in the local environment and aligning them with students lived experiences. Similarly, Suryawati and Osman (2018) confirm that contextualized science teaching, employing diverse implementation strategies, significantly contributes to more meaningful learning outcomes.

This evidence collectively underscores the pedagogical value of leveraging local games and physical activities in science education, suggesting that such approaches can serve as effective strategies for fostering deeper conceptual understanding and promoting contextualized learning among students.

4.3 Use of Local and Cultural Context

The third theme reveals that participants emphasized the importance of connecting instructional materials with students' familiar contexts, making learning an enriching and enjoyable experience by using various pedagogies to promote contextualization in their lessons. The following are samples of transcription:

> ***Participant 1: "The lesson on the digestive system, which uses local food to explain how the digestion process occurs, is very helpful since the examples are familiar to the learners."***

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Participant 2: "Scientific beliefs and myths are very interesting topics, learners have a lot to share, making the lesson more engaging and meaningful"

The passage underscores the significance of integrating local and cultural contexts to foster meaningful learning experiences. Suryawati and Osman (2018) emphasize the effectiveness of contextualized science instruction, highlighting various implementation methods and strategic approaches. Similarly, Borre (2019) advocates for incorporating local events and anecdotes into biology lessons, utilizing relatable examples to facilitate students' comprehension.

As pedagogical practices evolve, it is imperative for educators to continuously adapt and contextualize scientific concepts and content, thereby establishing authentic connections that enhance student engagement and understanding.

5. Determining Success of a Contextualized Science Instruction

Themes

Students' Engagement
Results of Student Assessment
Real Life Application

5.1 Students' Engagement

Participants perceived that the effective implementation of contextualization significantly enhances student engagement and enjoyment in science lessons. Sample transcriptions are as follows:

Participant 1: "If I were to pose a scenario where contextualization occurs and they respond positively to it, that is when I would say that contextualization in science teaching is successful"
Participant 2: "When they can give examples or experiences, they share their real-life experiences related to the topic or lesson."

The text highlights the significance of implementing contextualization in enhancing student engagement and enjoyment. The findings align with existing research, such as Buck et al. (2014), who emphasize that engagement and understanding improve when lessons connect with familiar, real-world contexts. Moreover, Pescuela and Goyena (2020) support the notion that integrating real-life applications into the curriculum is crucial for developing critical thinking and problem-solving skills. Tolbert and Knox (2016) further suggest that incorporating local content into science education enhances student engagement by connecting them with their cultural and geographical backgrounds.

The integration of contextualization into science teaching emerges as a potent tool for enhancing student engagement and understanding. The evidence from classroom observations and teacher testimonials underscores the benefits of this approach, including increased relevance of the material, improved critical thinking abilities, and higher overall student motivation.

5.2 Results of Student Assessment

This theme demonstrated the effectiveness of contextualizing science lessons as perceived by the participants. During classroom observations conducted by the researchers, it was noted that the results of the formative assessment were orally presented by the student representative, with all students successfully passing the 10-item quiz. Sample transcriptions are as follows:

Participant 1: "It's with the assessment result and with their participation during my class"
Participant 2: "If their output is very good or excellent, or yes, assessment."

The findings suggest that contextualized teaching approaches can effectively improve student understanding and engagement by making science lessons more relevant to their experiences, ultimately leading to better academic performance.

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Integrating these findings involves juxtaposing them with existing literature, including studies by Sambayon et al. (2023) and Bonganciso (2016), which highlights the positive impact of contextualized teaching and learning on reading comprehension among Filipino learners.

Recognizing the influence of contextualization on student performance underscores the imperative for educators to continuously refine their teaching approaches to align with research-backed best practices.

5.3 Real Life Application

This theme demonstrated that anchoring lessons within real-life contexts enabled students to develop a deeper understanding of abstract concepts and facilitated more effective retention of knowledge. Sample transcriptions are as follows:

> ***Participant 1: "It goes more that way, if it is more localized, if they can relate more, especially if that particular material or idea is relatable ha ira, ay nakita ko ito hiya, ay oo, kun baga, , ah yes it's like they learn better in that way."***
> (It goes more that way—if it is more localized and if they can relate more, especially if that material or idea is relatable. For example, I saw this, and I thought, 'Oh, yes, it's like they learn better in that way.)
> ***Participant 2: "Ah yes of course because again as I've said earlier, contextualization provides more meaningful learning."***

The text highlights that applying lessons to real-world situations enhanced the perceived relevance and meaningfulness of instruction for students.

Buck et al. (2014) argued that when students perceived the relevance of their learning to everyday life, their interest and engagement increased, leading to better academic performance. Similarly, Pescuela and Goyena (2020) contended that contextualizing science instruction promoted the development of critical thinking skills by encouraging students to apply scientific principles to real-world problems.

By immersing students in real-world contexts, educators can create dynamic learning environments that foster curiosity and exploration.

6. Challenges Encountered in Contextualized Science Instruction

Themes
Lack of Materials
Topic Dependency of Contextualization

6.1 Lack of Materials

Participants emphasized the need to consider activities and materials for effective contextualization, highlighting the inherent connection between resource availability and successful integration of localized content into the curriculum. Sample transcriptions are as follows:

> ***Participant 1: "Hmm.. sometimes in relating, thinking of what are the activities or what are the materials needed that we can contextualize it."***
> ***Participant 2: "So, of course, number one is the materials, the laboratory equipment or apparatus."***

These text highlights the critical need for adequate resources to support effective contextualization efforts in the classroom.

These findings align with existing literature, as Baraquia (2018) highlights similar challenges faced by educators, including time constraints, students' readiness, and resource availability. Additionally, Boakye (2017) emphasizes the lack of resources as a significant hurdle for newly qualified science teachers, further corroborating the findings of this study.

Furthermore, Reyes et al. (2019) emphasize the time-consuming nature of material preparation for contextualized lessons in mathematics education, indicating a broader issue across disciplines.

Despite their potential benefits, contextualization requires careful consideration of resources, pedagogy, and curriculum design to effectively overcome its inherent challenges.

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6.2 Topic Dependency of Contextualization

Participants expressed that the difficulty of contextualizing science lessons varies depending on the topic, with some subjects being more challenging to relate to local contexts than others. Sample transcriptions are as follows:

Participant 1: "It depends on the topic, as I've said there are topics in Science that we cannot easily contextualize, and there are some also that we can."

Participant 2: "For some lessons, not all, there are again lessons na mas madali siyang ma-contextualize."
(For some lessons, but not all, there are lessons that are easier to contextualize.)

The passage highlights participants' experiences of resource limitations in implementing contextualized science instruction. Reyes et al. (2019) identified the complexities inherent in pedagogical approaches, which often stemmed from individual student differences and revealed specific areas within formal mathematics that resisted contextualization. Similarly, Pecson (2016) highlighted the importance of adaptability and innovation in applying localization and contextualization strategies, aligning with the sentiments conveyed by the educators regarding resource constraints and the difficulty of contextualization across different topics.

7. Coping Strategies for Contextualized Science Instruction

Themes

Collegial Support

Integration of Information Communication Technology and other resources

7.1 Collegial Support

This theme reveals that participants consistently emphasized the importance of collective guidance and support, particularly through collaborative efforts with colleagues, notably master teachers (MTs), to enhance their teaching practices—especially in the context of lesson contextualization. Sample transcriptions are as follows:

Participant 1: "Asking colleagues about the activities or necessary materials that can be used to contextualize that topic."

Participant 2: "I ask my colleagues for help, especially in my lesson planning, especially the masters teachers because they are very accommodating in giving suggestions."

The passage highlights that collaborative brainstorming created a supportive environment where teachers leveraged each other's expertise and experiences.

The participants' reliance on collaborative interactions with master teachers reflected the findings of Guanzon and Miranda (2023), demonstrating a substantial relationship between the technical assistance skills of master teachers and teachers' instructional performance.

Overall, the collaborative efforts described by the participants underscored the importance of collective guidance and resourcefulness as key strategies for addressing challenges related to curriculum contextualization.

7.2 Integration of Information Communication Technology and other resources

This theme reveals that participants beyond traditional materials, educators explore videos, experiments, and community resources to enhance the relevance and engagement of their lessons Sample transcriptions are as follows:

Participant 1: "By using different resources aside from the available resources here in our division."

Participant 2: "Actually, for me since ano na tayo we are already in high tech era, in my class, usually I'm using high tech na ano, I'm incorporating ICT in my kuan, in my classroom."
(Actually, for me, since we are already in the high-tech era, in my class, I usually use high-tech tools. I incorporate ICT in my lessons and classroom activities)

The passage highlights how leveraging various resources enables participants to address the diverse needs and interests of students, making science more accessible and relatable. The findings strongly align with existing literature on instructional strategies and resource utilization in education. For instance, Bringas (2023) emphasizes the importance of employing teaching strategies that are not only innovative but also grounded in materials that are

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meaningful and accessible to students. Additionally, the study by Reyes et al. (2019) underscores the significance of contextualization in teaching, particularly with local environments and traditional games.

These findings suggest that educational policies should provide support and access to a variety of teaching materials and provide training for effective contextualization.

Conclusions

Based on the findings of the study, several conclusions were drawn. he study's findings reveal diverse levels of understanding and implementation of contextualization in junior high science instruction. Participants demonstrated varying levels of understanding and implementation of contextualization among junior high science teachers. Teachers utilized resources like school-based learning groups and local heritage materials, adopting strategies such as content localization, physical activities, and cultural integration. The success of these strategies was measured through student engagement, assessment performance, and real-world application. Challenges included shortages of materials and the topic-specific nature of contextualization. To overcome these issues, teachers relied on support from mentors and the use of ICT and other resources to improve their instructional practices.

Recommendations

In light of the conclusions, several key recommendations are proposed to enhance teacher proficiency and improve the quality of instruction in science education. These include strengthening school-based support systems through targeted workshops and training on contextualization techniques and expanding access to professional development resources such as lesson plans and multimedia tools to facilitate engaging, locally relevant lessons. Promoting collaboration among teachers, particularly between experienced and novice educators, can foster a supportive environment that encourages shared learning. Additionally, developing inclusive, technology-rich resources for challenging topics—by involving research, experts, and local communities—can make lessons more relatable and meaningful for students. Lastly, implementing a comprehensive Technical Assistance Plan (TAP) that involves diverse participants will help monitor progress and address challenges across different schools and demographics. Overall, these strategies aim to make science lessons more engaging, accessible, and relevant, thereby benefiting student learning outcomes.

REFERENCES

Amihan, S. R., Sanchez, R. D., & Carvajal, A. L. P. (2023). Sustained quality assurance: Future-proofing the teachers for an ASEAN higher education common space. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR),* 2(4), 276-286. https://etcor.org/storage/iJOINED/Vol.%20II(4),%20276-286.pdf

Aranza, R. C., De Castro, M. B. G., & Panibio, B. M. (2024). *The 9 dysfunctions of leadership: Navigating turbulent waters, building stronger teams*. ETCOR Educational Research Center Research Consultancy Services. https://etcor.org/book-publications/the-9-dysfunctions-of-leadership-navigating-turbulent-waters-building-stronger-teams

Baraquia, L. (2018). Interdisciplinary contextualization and inquiry-based learning: how engaging can it be*?* *International Journal of Science and Engineering Investigations, 7*(81). https://www.researchgate.net/publication/330466694_Interdisciplinary_Contextualization _and_Inquiry-Based_Learning_How_Engaging_Can_It_Be

Bello, J. B., Concon, L. S., Polache, M. C. C., Ayaton, M. J. C., Manlicayan, R. D., Campomanes, J. P., & Saro, J. M. (2023). Contextualized and localized science teaching and learning materials and its characteristics to improve students' learning performance. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.7607686

Boakye, C., & Ampiah, J. G. (2017). Challenges and solutions: *The Experiences of Newly Qualified Science Teachers*. *SAGE Open, 7*(2). https://doi.org/ 10.1177/2158244017706710

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P - ISSN 2984-7842
E - ISSN 1908-3181

Bonganciso, R. (2016). Effects of contextualization on the reading comprehension performance of filipino learners. *ResearchGate*. https://www.researchgate.net/publication/310671685_Effects

_of_Contextualization_on_the_Reading_Comprehension_Performance_of_Filipino_Learners

Borre, J. C. (2019). Teaching biology using contextualized learning kit. *The Proceedings of the Asian Conference on Education & International Development 2019*. http://25qt511nswfi49iayd31ch80wpengine.netdna-ssl.com/wp-content/uploads/ paperaceid2019/ACEID2019_45818.pdf

Braun, V., Clarke, V., & Hayfield, N. (2022). A starting point for your journey, not a map': Nikki Hayfield in conversation with Virginia Braun and Victoria Clarke about thematic analysis. *Qualitative Research in Psychology*, *19*(2), 424-445. https://doi: 10.1080/14780887.2019.1670765

Bringas, H. A. (2023). Localization and contextualization. https://www.slideshare.net/slideshow/localization-contextualization/35683328

Buck, G. A., Akerson, V. L., Quigley, C. F., & Weiland, I. S. (2014). Exploring the potential of using explicit reflective instruction through contextualized and decontextualized approaches to teach first-grade African American girls the practices of science. *Electronic Journal of Science Education*, *18*(6), 1–21. http://ejse.southwestern.edu/

Carvajal, A. L. P., Ramos, M. T. C., Calderon, A. A., Mutia, R. Y., Dioquino, J. R., & Molines-Siniguian, M. S. (2025). *The research-engaged school: Cultivating a vibrant research culture for policy, practice and pedagogy.* ETCOR Educational Research Center Research Consultancy Services. https://doi.org/10.63498/book308

Carvajal, A. L. P., Sanchez, R. D., & Amihan, S. R. (2023). Probing the Seven Qualities of True Leadership: A Qualitative Investigation of Selected Experienced and Successful Leaders in Various Industries. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR),* 2(3), 898-912. https://etcor.org/storage/iJOINED/Vol.%20II(3),%20898-912.pdf

Carvajal, A. L. P., Fernandez, T. M., Pangilinan, A. M., Obod, M. M., Amihan, S. R., Sanchez, R. D., Sanchez, A. M. P., Sanchez, J. J. D. (2025). Future-Proofing Teachers in Reframing Teacher Education Curriculum in the Philippines: Basis for Policy Recommendations. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR)*, 4(2), 235-252. https://doi.org/10.63498/nxz2st271

Department of Education (DepEd). (2016). *The learning action cell as a K to 12 basic education program school-based continuing professional development strategy for the improvement of teaching and learning*. [DepEd Order No. 35, s. 2016]. https://www.deped.gov.ph/2016/06/07/do-35-s-2016-the-learning-action-cell-as-a-k-to-12-basic-education-program-school-based-continuing-professional-development-strategy-for-teachers.pdf

Department of Education(DepEd). (2020). *DepEd professional development priorities for teachers and school leaders for school year 2020-2023.* [DepEd Order No. 050 s. 2020]. https://www.deped.gov.ph/2020/05/04/may-4-2020-dm-050-s-2020-deped-professional-development-priorities-for-teachers-and-school-leaders-for-school-year-2020-2023/ improvement-of-teaching-and-learning/

Dulay, M. J., Santos, R. M., Amihan, S. R., Lagon, M. D., Andaya, R. S. J., Campo, R. A., Woo, R. E., & Ambida, R. S. (2025). *The art and science of doing research: Mastering the craft, embracing the process (Book 2)*. ETCOR Educational Research Center Research Consultancy Services. https://doi.org/10.63498/book305

Fortus, D., & Krajcik, J. (2020). Supporting contextualization: lessons learned from throughout the globe. *In Springer eBooks* (pp. 175–183). https://doi.org/10.1007/978-3-=030-27982-0_9

Giamellaro, M. (2017). Primary contextualization of science learning through immersion in content-rich settings. *International Journal of Science Education*, *36*(17), 28482871. https://doi.org/10.1080/09500693.2014.937787

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The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Guanzon, L., & Miranda, A. (2023). Professionalism and technical assistance skills of master teachers in relation to teachers' performance. *International Journal of Scientific Research and Management*, *11*(12), 3091–3116. https://doi.org/10.18535/ijsrm/v11i12.el02

Karisan, D., & Zeidler, D. L. (2017). Contextualization of nature of Science within the socioscientific issues framework: A review of research. *International Journal of Education in Mathematics, Science and Technology*, *5*(2), 139–152. https://doi.org/10.18404/ijemst.270186

Leigh-Osroosh, K. T. (2021). The phenomenological house: a metaphoric framework for descriptive phenomenological psychological design and analysis. *The Qualitative Report*. https://doi.org/10.46743/2160-3715/2021.4815

Morgan, H. (2022). Conducting a qualitative document analysis. *The Qualitative Report*, *27*(1),64-77. https://doi.org/10.46743/2160-3715/2022.5044

Official Gazette of the Philippines. (2012). *Republic Act No. 10173: Data Privacy Act of 2012.* https://www.officialgazette.gov.ph/2012/08/15/republic-act-no-10173/

Pangilinan, A. M. (2025). Challenges and Commitment to Teaching: A Quantitative Descriptive-Correlational Study of Filipino Teachers in Select Coastal Villages. International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR), 4(2), 1684-1692. https://doi.org/10.63498/etcor397

Pecson, R., (2016). Localization and contextualization in teaching social studies. Online Article. https://ryanramoletepecson.blogspot.com /2014/06/localization-and-contextualization-in.html *25*(5), 587–588. https://doi.org/10.1177/1049732315576699

Pescuela, E. B., & Goyena, J. F. (2020). Interdisciplinary contextualization (Icon) lessons in teaching senior high school Mathematics. *People: International Journal of Social Sciences*, *5*(3), 869–880. https://doi.org/10.20319/pijss.2020.53.869880

PISA 2022 Results (Volume I). (2023). In Programme for international student assessment. https://doi.org/10.1787/53f23881-en

Regional Memorandum No. 356 s. 2023. *Results of the project Guide for Instructions Yielding Archeatypal (GIYA) teachers from the regional management committee activities* | *DepEd Region VIII.* (2023, April 25). https://region8.deped.gov.ph/2023/04/25/april-24-2023-rm-356-s-2023-results-of-the-project-guide-for-instructions-yielding-archetypal-giya-teachers-from-the-regional-management-committee-activities/

Reyes, J. F., Insorio, A. O., Ingreso, M. L. V., Hilario, F. F., & Gutierrez, C. R. (2019). Conception and application of contextualization in Mathematics education. *International Journal of Educational Studies in Mathematics*, *6*(1), 1–18.https://dergipark.org.tr/en/download/article-file/664590

Sambayon, J. T., Luceñara, D. P., Luceñara, C. P., Bayron, Q. M., Peñaloga, R. A., & Larombe, E. A. (2023). Effectiveness of contextualized learning materials in improving the reading skills and comprehension level of the students. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.7702258

Samar National School. (2022). Results of the school-based needs assessment, aligned with the Philippine Professional Standards for Teachers (PPST) [School memorandum]. Unpublished manuscript.

Sanchez, J. M. P. (2017). Integrated macro-micro-symbolic approach in teaching secondary Chemistry. *Kimika*, *28*(2), 22–29. https://doi.org/10.26534/ kimika.v28i2.22-29

Suryawati, E., & Osman, K. (2018). Contextualized learning: an innovative approach towards the development of students' scientific attitude and natural science performance. *EURASIA Journal of Mathematics, Science and Technology Education*, *14*(1), 61–76. https://doi.org/10.12973/ ejmste/79329

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The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Tolbert, S., & Knox, C. (2016). They might know a lot of things that i don't know': investigating differences in preservice teachers' ideas about contextualizing science instruction in multilingual classrooms. *International Journal of Science Education*, *38*(7),11331149. https://doi.org/10.1080/095006932016.1183266

Uy, E. (2023). Pedagogical Effectiveness of GMRCE Learning Model in Strengthening Learning Attitude in Gas Laws. *JPAIR Institutional Research*, *21*(1), 1-20.

Wyatt, T. R. (2016). Contextualization strategies for implementation of the common core. *Issues in Teacher Education*, *25*(2), 117. https://www.itejournal.org/wp-content/pdfs-issues/fall-2016/13wyatt.pdf