

Unlocking the Educational Insights: Science Teachers' Challenges of National Learning Camp (NLC) Experiences

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Abstract — This study examined the challenges faced by volunteer Science Teachers at the National Learning Camp (NLC) in Tarlac City Schools Division, with the aim of proposing a framework to address these challenges. A qualitative case study design is used to investigate the experiences of 10 volunteer junior high school Science teachers who participated in the NLC during the Academic Year 2022-2023. Data is gathered through interviews and analyzed using thematic analysis.

The findings revealed a diverse profile of the respondents, including varying ages, genders, teaching positions, years of service, educational backgrounds, civil statuses, and school affiliations. The challenges identified include insufficient budget for meals, lack of support and briefing, diverse backgrounds of participants, limited resources and facilities, and attendance and participation issues. To address these challenges, the study recommends measures such as increased funding, support systems for teachers, adaptation of teaching methods, innovative resource utilization, and efforts to foster engagement and attendance. Pre-camp training, mentorship, collaborative efforts, project-based learning, technology integration, personalized outreach, and financial assistance initiatives are also recommended.

The study highlighted the importance of tailored support mechanisms and interventions to address the unique needs of volunteer Science Teachers in the NLC. It emphasizes the significance of effective communication, skill development, collaboration, and inclusive practices to enhance the experiences and effectiveness of teachers and improve student learning outcomes. The proposed framework aims to provide a comprehensive approach to overcome the challenges faced by volunteer Science Teachers and enhance the overall quality of science education at the NLC.

Keywords — **Volunteer Science Teachers, National Learning Camp, Challenges, Hurdles, Science Education practices, Innovative Teaching Methods, Professional Development Programs**

I. Introduction

For students, studying science is a life-changing experience that leads to a world of knowledge and exploration. It fosters their curiosity, develops their critical thinking abilities, and

gives them the ability to comprehend the natural events that form our universe. But studying science may also provide students with a lot of difficulties. Students frequently struggle to understand and apply scientific ideas correctly, from abstract theories to complicated topics.

Students' intellectual growth and capacity to make sense of their surroundings are significantly impacted by the scientific lessons they receive in school. It motivates people to query, look into, and look for proof to back up their assertions. Through practical experiments, scientific investigations, and interactive educational opportunities, students develop a scientific mindset that emphasizes evidence-based reasoning and encourages curiosity. Learning science has a transforming effect on students, fostering critical thinking abilities that are essential in many facets of life in addition to providing them with subject-specific information (Darling-Hammond et al, 2020).

Notwithstanding the transformational potential, learners frequently encounter obstacles while pursuing scientific undertakings. Understanding complicated scientific concepts is one of the main challenges. There are many different fields of study that fall under the umbrella of science, and each has its own set of ideas, concepts, and jargon. Students' capacity to get a thorough comprehension of scientific phenomena may be hampered by their inability to make the connection between theoretical knowledge and its practical application. (Tan, 2021).

Literature Review

Different countries have proposed different science education programs to address the problems of learners in learning science at school. Japan has implemented the "Science and Mathematics Education Reform" initiative, which focuses on improving science and mathematics education at all levels. The program emphasizes inquiry-based learning, hands-on experiments, and the integration of technology in science education. It also promotes collaboration among students and encourages them to think critically and creatively (Freeman, 2019). Moreover in Germany, a program called "Science Education for Sustainable Development" (BNE), which aims to integrate sustainable development principles into science education. The program emphasizes the importance of environmental awareness, ethical considerations, and the application of scientific knowledge to address real-world problems. BNE focuses on interdisciplinary learning and encourages students to explore the social, economic, and ecological dimensions of scientific challenges (Bezeljak et al, 2020).

In New Zealand, the science curriculum focuses on promoting scientific literacy and developing students' understanding of key scientific concepts. The curriculum encourages students to engage in practical experiments, investigations, and scientific inquiries. It also emphasizes the integration of indigenous knowledge and perspectives, recognizing the cultural diversity and heritage of New Zealand (Wilson and Jesson, 2018). The curriculum encourages critical thinking, problem-solving skills, and the development of scientific inquiry abilities among students. China also places a strong emphasis on science competitions and extracurricular activities to foster

students' interest and passion for science (Chen et al, 2017). Furthermore, in the United Kingdom, the "Science Learning Centres" initiative provides professional development opportunities for science teachers. The initiative aims to address the difficulties teachers face in delivering engaging and impactful science lessons (Tomei, 2014).

In the Philippines, educational science programs such as the STEM Program, STARBOOKS, Philippine Science High School (PSHS), Integrated Science and Technology Promotion Program (ISTPP), and Science Education Institute (SEI) Programs address the difficulties of science learning. These initiatives promote hands-on learning, provide access to resources, offer specialized science education, and encourage scientific inquiry and research.

The most recent program in science to address the needs of learners and enhance their capability is the National Learning Camp (NLC). The Department of Education (DepEd) in the Philippines has launched a voluntary learning recovery program called the National Learning Camp (NLC). The program aims to improve learner performance and teacher capacity during the school break. The NLC will be offered at the end of the school year and initially focus on English, Mathematics, and Science for Grades 7 and 8. It will gradually expand to other grade levels and subjects in the coming years.

The NLC is part of the broader National Learning Recovery Program initiated by DepEd to address learning gaps exacerbated by the COVID-19 pandemic and improve overall student performance. This program includes subprograms like the National Reading Program, National Mathematics Program, National Science and Technology Program, and others implemented by DepEd's central and field offices.

The science-focused National Learning Camp (NLC) activities can help meet the Sustainable Development Goals (SDGs), which are established by the United Nations. SDG 4: Quality Education presents one of the main links. The NLC provides extra assistance and resources over the school holidays with the goal of enhancing both teacher capacity and learner performance. Future citizens will need these abilities in order to actively engage in sustainable development and make contributions to scientific advances that tackle global challenges. In line with SDG 5, the NLC also offers a forum for advancing gender parity in science education. Gender equality in education and equal opportunities for all are promoted by the NLC, which encourages equal involvement and engagement of all genders. Science-related National Learning Camp experiences are essential for promoting sustainable development and creating a more just and informed society because of their links to the Sustainable Development Goals.

The National Learning Camp (NLC) organized by the Department of Education (DepEd) in the Philippines can use key performance indicators (KPIs) to assess its effectiveness. A few possible key performance indicators (KPIs) for the NLC are: parent involvement, teacher preparation and professional development, academic achievement, knowledge retention, participant satisfaction, personal growth and development, cooperation and teamwork, and

program cost-effectiveness. These metrics offer perceptions into participant satisfaction, learning results, student engagement, and program effectiveness overall. The DepEd may obtain important information to strengthen the NLC and increase its effectiveness by keeping an eye on these KPIs.

The NLC experience may also emphasize the value of networking and cooperation among science educators. Attending NLCs enables teachers to network with peers from various schools and locations, which may be beneficial as teaching can often be a lonely profession. These exchanges provide people a forum to talk about shared difficulties, trade teaching philosophies, and share experiences. Science instructors may develop a feeling of community through collaborative learning opportunities at NLCs, enabling them to help and learn from one another even after the camp has ended.

The study's findings will shed important light on the kind of assistance and materials that volunteer science teachers need to improve their effectiveness and level of participation within the NLC. The DepEd can improve volunteer teacher satisfaction by tackling these problems and obstacles, which will eventually increase the NLC's ability to assist students' scientific learning recovery.

Theoretical Framework

In order to provide a thorough understanding of the factors influencing Science teachers' experiences in the National Learning Camp, the theoretical and conceptual framework for this study, "Unlocking the Educational Insights: Science Teachers' Challenges of National Learning Camp Experiences," draws on the Social Cognitive Theory and the Ecological Systems Theory (NLC).

According to Albert Bandura's Social Cognitive Theory, people's actions are influenced by a dynamic interplay between their own cognitive processes, external stimuli, and personal characteristics. According to the idea, which is relevant to this study, science teachers' experiences and difficulties in the NLC are impacted by their individual convictions, sense of self-efficacy, and prior classroom instruction. Teachers who believe they can teach science more effectively and with greater self-efficacy may approach the NLC with greater assurance. Their pedagogical expertise and prior teaching experiences may also have an effect on how they handle the difficulties they face at camp.

Urie Bronfenbrenner's Ecological Systems Theory highlights the various facets of influence that mold people's experiences and developmental stages. The Ecological Systems Theory serves as a lens through which to view the several systems and environments that influence Science teachers' experiences in the NLC in this study. These include the ecosystem (external elements like training, support, and resources), the mesosystem (interactions between Science instructors and other camp participants, administrators, and support staff), and the macrosystem (individual-level factors including personal beliefs and teaching experiences) (broader educational policies and cultural influences). The study tries to understand the intricate interactions between

these systems and how they affect science teachers' experiences and difficulties in the NLC by taking these ecological aspects into account.

Through the integration of the Social Cognitive Theory and the Ecological Systems Theory, this research aims to offer a thorough comprehension of the problems and difficulties encountered by Science teachers involved in the NLC. It recognizes the significance of individual elements like self-efficacy and past experiences, but it also takes into account the external aspects that affect how they perceive the camp. This framework will direct the gathering, processing, and evaluation of study data, yielding insightful findings and suggestions for enhancing the NLC and assisting science instructors with their professional growth.

II. Methodology

Research Design and Strategy

As a backbone of the study that Yin (2006) characterizes as an observational survey of a contemporary marvel in its true context, the researcher used a qualitative case study design. The employment of this design is to examine a phenomenon, produce a hypothesis, and validate a method, according to Teegavarapu et.al (2008). This study aims to investigate the challenges faced by volunteer Science Teachers in their participation in the National Learning Camp (NLC) in the Tarlac City Schools Division, using a quantitative research design.

In the gathering of data and the analysis, Patton (1990) proposed that a case study would approve the use of various approaches such as the main sources and that it could be carried out through an interview with the participants in the present study. The study will use interview questions created by researcher to ask for the experience and difficulties of participants to be determined through interviews. The findings of the study will provide valuable insights into the specific challenges that need to be addressed to enhance the experiences and effectiveness of volunteer Science Teachers in the NLC in Tarlac City Schools Division.

Population and Locale of the Study

The study will involve 10 volunteer junior high school Science teachers from three secondary schools in Tarlac City Schools Division-West District who participated in the National Learning Camp during the Academic Year 2022-2023. The secondary schools included in the study are Bonifacia G. Soliman High School (formerly Balanti High School), Tibag High School, and Baras Baras High School, and Sapang Maragul Integrated School.

Table 1 presents the distribution of the Junior High School volunteer Science Teacher respondents from each secondary school in Tarlac City Schools Division-West District.

Table 1 Population of the Study

Secondary School	Male	Female	Total
Baras Baras High School	1	1	2
Tibag High School	1	2	3
Sapang Maragul Integrated School	1	1	2
Bonifacia G. Solioman High School	2	1	3
TOTAL	5	5	10

Data Gathering Tools

The researcher formulated interview guide questions. The interview guide has two parts. The first part of the interview guide was composed of questions about the profile of the respondents described in terms of age, sex, teaching position, years in service, highest educational attainment, relevant trainings attended, and civil status. Whereas, for the second part, it identifies the challenges of volunteer science teachers at the National Learning Camp (NLC). Finally, based on the results of the study, the researcher will propose a National Learning Camp (NLC) framework to address the challenges of volunteer science teachers.

The researcher will seek the validation of the instrument to the three experts in the English Language for the grammar and three experts in Educational Management for the content. The researcher incorporated comments and suggestions to be provided by the experts before they conducted the interview.

Another procedure to be used in validating the data gathered was member checking or respondent validation where the researcher will send the findings of the study to the respondents and the respondents reviewed and check whether the researcher interpreted the data accurately.

Data Gathering Procedure

This study's main goal is to investigate the difficulties faced by volunteer science teachers at Tarlac City Schools Division West District's National Learning Camp (NLC). In order to do this, the researcher will create a questionnaire that is especially meant to address the challenges raised by the research.

After creating the questionnaire, the researcher will send a letter of intent to the superintendent of the Department of Education in Tarlac City, asking for permission to carry out the study. In addition, upon approval from the superintendent of the Schools Division, a letter of intent will be delivered to the research participants (SDS).

The researcher will either conduct the interview in person or via an online tool such as Google Forms to the participants. To confirm the research's assertions and obtain more understanding of the study's findings, the researcher also intends to have casual discussions with

the participants. In order to give a thorough analysis and interpretation of the results, the data gathered from the questionnaire will finally be evaluated and analyzed.

III. Results and Discussion

This chapter provides a comprehensive analysis of the significant challenges encountered by science teachers during their participation in the NLC program. Through an examination of the data, key themes and insights emerged, shedding light on the limitations and areas of improvement within the program. The findings contribute to a deeper understanding of the obstacles faced by science teachers and offer valuable recommendations for enhancing future NLC experiences, ultimately aiming to improve the quality of science education nationwide.

Profile of the Respondents

The profile of respondents participating in the study "Unlocking the Educational Insights: Science Teachers' Challenges of National Learning Camp Experiences." Understanding the diverse backgrounds and experiences of these respondents is crucial for comprehending the challenges faced by science teachers during national learning camp experiences.

Profile of the Respondents

The age range of the respondents, which ranges from 25 to 57, reflects a wide range of experiences and opinions. People's attitudes to professional development, teaching, and learning, as well as their receptivity to new ideas and challenges they can encounter during national learning camps, may be significantly impacted by this heterogeneity. While more seasoned instructors might draw from their knowledge, less seasoned educators might provide fresh perspectives and innovative ideas.

The respondents' ages, which vary from 25 to 57, indicate a diverse spectrum of life events and viewpoints. This variability may have a substantial effect on people's approaches to professional development, teaching, and learning, as well as their openness to novel ideas and difficulties they may face during national learning camps. While more seasoned educators may draw from their vast classroom knowledge to efficiently manage challenging circumstances, younger educators may offer new views and creative ideas.

Additionally, the variation in civil status and school affiliation among respondents adds another layer of complexity to the study. Married teachers may grapple with balancing professional responsibilities with personal commitments, while single educators might have more flexibility in dedicating time and energy to their professional development. Furthermore, the diverse school affiliations encompassing both urban and rural settings highlight the multifaceted nature of science education across different contexts. Understanding how contextual factors influence teachers'

experiences and perceptions during national learning camps is essential for designing effective interventions and support mechanisms tailored to specific educational settings

Challenges of Volunteer Science Teachers at the National Learning Camp (NLC)

Main Challenges That Volunteer Science Teachers Face While Working at the NLC: the primary challenges encountered by volunteer science teachers during their tenure at the National Learning Camp (NLC). These challenges represent the hurdles and obstacles faced by educators in delivering effective science education within the unique context of the NLC environment. By identifying and examining these key challenges, educators, policymakers, and stakeholders can develop strategies to address them and improve the overall experience and outcomes of science education initiatives at the NLC.

Insufficient Budget for Meals. Volunteer science teachers face challenges due to the limited budget allocated for meals at the National Learning Camp (NLC), impacting the quality and quantity of meals available. The issue of limited financial support is a common challenge faced by volunteer teachers in various educational settings (Zhou and Shang, 2011). Inadequate funding can have a direct impact on the physical well-being of teachers and their ability to perform effectively. When teachers are not provided with adequate sustenance, it can lead to decreased energy levels, decreased morale, and overall dissatisfaction, ultimately affecting their teaching performance.

Lack of Support and Briefing. Volunteer teachers encounter difficulties in implementing educational programs at the NLC due to insufficient support, guidance, and briefing, affecting lesson planning and execution. Furthermore, the lack of support and briefing for volunteer teachers emerged as another significant challenge, as mentioned by the respondents. One expressed frustration, stating, "Without adequate guidance and resources, volunteer teachers like myself may struggle to effectively plan and execute science lessons at the camp." another also emphasized, "Volunteer teachers often find themselves grappling with inadequate guidance and resources to effectively plan and execute their lessons".

Diverse Backgrounds of Participants. The diverse backgrounds and learning styles of camp participants pose challenges for volunteer teachers, requiring adaptation of teaching methods and addressing individual needs. Volunteer teachers often require comprehensive support and guidance to effectively plan and execute their lessons. Without proper training, resources, and briefing, they may struggle to meet the diverse needs of the camp participants. Ingersoll and Strong (2011) indicate that providing orientation programs, mentorship, and instructional resources to volunteer teachers can significantly enhance their teaching skills and confidence.

Limited Resources and Facilities. The NLC's lack of resources and facilities hinders volunteer teachers' ability to conduct hands-on experiments and demonstrations, requiring innovation within constraints. One respondent highlighted the challenges posed by limited resources and facilities at the NLC, stating, "The camp environment often lacks the infrastructure

and materials required for hands-on experiments and engaging lessons." This sentiment was echoed by another respondent, who emphasized, "Unlike traditional classrooms equipped with labs and extensive teaching materials, the campsite may have limited access to scientific equipment and supplies." These direct quotes underscore the obstacles volunteer teachers face in delivering hands-on science education within resource constraints.

Attendance and Participation Challenges. Encouraging consistent attendance and participation from learners at the NLC proves to be a significant challenge, requiring persuasive communication and collaboration efforts. The lack of adequate resources and infrastructure can pose significant challenges for volunteer teachers in delivering hands-on science education. Educational camps may not have access to well-equipped laboratories or specialized scientific equipment, which can hinder the implementation of interactive and experiential learning activities (Wekwe et al, 2024). This limitation can impact the effectiveness of science instruction and limit the scope of practical experiments and demonstrations.

Impact of the Challenges to the Effectiveness of Volunteer Science Teachers in Delivering Quality Science Education to the Camp Participants

This section delves into the impact of challenges faced by volunteer science teachers on their effectiveness in delivering quality science education to camp participants at the National Learning Camp (NLC). By analyzing the repercussions of these challenges, ranging from logistical hurdles to pedagogical constraints, this table offers insights into the broader implications for the educational experience and outcomes of NLC participants. Understanding these impacts is essential for devising targeted strategies and interventions to mitigate challenges and optimize the delivery of science education within the camp setting.

Lack of Support from the Administrators. Diminishes the ability to develop and execute engaging and informative lessons, resulting in missed opportunities for hands-on experimentation and collaborative activities. Increases stress, uncertainty, and burnout among teachers, hindering their ability to effectively engage and motivate students. As highlighted by several respondents, one expressed, "Without clear guidelines or resources provided to assist in curriculum development and lesson planning, volunteer teachers may struggle to develop and execute engaging and informative lessons."

Providing pre-camp training sessions, mentorship programs, and access to instructional resources can significantly enhance volunteer teachers' confidence and instructional skills. Clear guidelines and curriculum materials can assist teachers in developing engaging and informative lessons, leading to improved learning outcomes (Marzano, 2007).

Insufficient Meal Allowance. Adversely affects students' cognitive function, attention span, and overall well-being due to hunger and malnutrition, hindering their ability to fully engage with scientific concepts. Diminishes the overall learning experience and motivation of both teachers and students. Moreover, the theme of insufficient budget for meals also poses significant

challenges for volunteer science teachers, impacting both teachers and students. One highlighted, "Hunger and malnutrition can impair students' cognitive function and overall well-being, hindering their engagement with scientific concepts and activities." Similarly, Respondent 6 expressed concern, stating,

Adequate budget allocation for meals is crucial to ensure that students have the necessary energy and focus to actively participate in educational activities (WHO, 2008)

Limited Access to Resources and Facilities. Inhibits the ability to conduct hands-on experiments and interactive activities crucial for fostering understanding and engagement in science. This leads to a less personalized educational experience for camp participants, hindering their grasp of scientific concepts and overall educational outcomes. Furthermore, limited access to resources and facilities emerges as another critical theme impacting volunteer science teachers' effectiveness. One respondent emphasized, "Inhibits the ability to conduct hands-on experiments and interactive activities crucial for fostering understanding and engagement in science."

The availability of resources and facilities plays a vital role in delivering hands-on and interactive science education (Ali et al, 2022). When volunteer teachers lack access to essential materials, equipment, or laboratories, it can limit their ability to provide engaging learning experiences.

Language Barriers. Impedes effective communication and comprehension of scientific concepts among students with different linguistic backgrounds, exacerbating existing challenges and hindering the overall effectiveness of educational initiatives undertaken at the camp.

Language barriers can pose challenges for volunteer teachers in effectively communicating scientific concepts to students from diverse linguistic backgrounds. Strategies such as using visual aids, employing bilingual instructors or translators, and promoting collaborative learning can help overcome these barriers and facilitate effective communication and comprehension of scientific ideas (Wood et al, 2018).

Maintaining Students' Interest. Compromises the depth and breadth of scientific concepts covered during the camp, hindering overall educational outcomes. Undermines the effectiveness of educational initiatives undertaken and diminishes the quality of science education delivered at the camp.

Addressing Attendance Issues. Results in gaps in learning and missed opportunities for hands-on experimentation and inquiry-based learning. Diminishes the overall learning atmosphere and sense of community at the camp, reducing opportunities for peer collaboration and knowledge exchange among participants. Sustaining student interest and ensuring regular attendance are crucial for maximizing the effectiveness of educational camps. Saad (2020) suggests that incorporating hands-on experiments, inquiry-based learning, and interactive activities can help maintain student engagement.

To overcome these obstacles and enhance the effectiveness of volunteer teachers, the NLC has implemented several strategies and initiatives. This table presents an overview of the specific measures taken by the NLC to address these challenges, providing examples of programs, resources, and support systems put in place to empower volunteer science teachers and improve the educational experience for camp participants.

Pre-camp Training Sessions and Workshops. Equip volunteer teachers with essential skills and knowledge, such as curriculum development, lesson planning, classroom management, and behavior guidance. Enhance the quality of science education delivered by volunteer teachers by providing them with the necessary tools and resources to effectively plan and execute lessons. The respondent further emphasizes that such initiatives are essential for enhancing the quality of science education delivered at the NLC by ensuring that teachers are well-prepared to overcome challenges they may encounter during the camp.

Schneider and Plasman (2011) emphasize the importance of focusing on both pedagogical strategies and content knowledge to enhance the quality of education delivered by volunteer teachers.

Mentorship and Support Systems. Provide guidance, feedback, and assistance to volunteer teachers throughout the camp duration. Alleviate feelings of stress, uncertainty, and burnout among volunteer teachers. Foster a collaborative and supportive learning environment for all involved. Mentorship and support systems are identified as crucial elements in sustaining volunteer teachers' morale and effectiveness throughout the camp. One respondent directly states, "Mentorship and support systems are crucial for sustaining volunteer teachers' morale and effectiveness throughout the camp."

Creating a supportive learning environment among teachers, where they can collaborate, share experiences, and collectively problem-solve, contributes to their professional growth and enhances the overall educational experience (Hoaglund et al, 2014).

Collaborative Efforts. Collaborative efforts between teachers, parents, and community stakeholders to mobilize support and resources. Collaborative efforts between teachers, parents, and community stakeholders are emphasized as key strategies for overcoming challenges at the NLC. By mobilizing support and resources from various stakeholders, organizers can effectively address obstacles encountered during the camp, as highlighted by a respondent.

Engaging various stakeholders, including teachers, parents, and community members, in collaborative efforts is crucial for overcoming challenges at educational camps. This collaborative approach fosters a sense of community and strengthens the overall impact of the educational initiatives (Sharma and Thapa, 2023).

Project-based Learning Activities. Incorporate project-based learning activities that allow students to explore scientific concepts in a hands-on and collaborative manner. Foster

teamwork, critical thinking, and problem-solving skills among participants while making learning more interactive and engaging. Project-based learning activities and the integration of technology are highlighted as effective strategies for enhancing the educational experience at the NLC. Respondents emphasize the importance of incorporating hands-on and collaborative project-based learning activities to engage students and foster essential skills like teamwork, critical thinking, and problem-solving

Incorporating project-based learning activities and integrating technology into the curriculum are effective strategies for enhancing the educational experience. Project-based learning engages students in hands-on, collaborative, and inquiry-based activities, promoting deeper understanding and critical thinking skills (Singha and Singha, 2024).

Personalized Outreach Efforts. Conduct personalized outreach efforts, such as one-on-one meetings with reluctant students and ongoing communication with school administrators and parents, to build rapport, address concerns, and emphasize the unique learning opportunities provided by the NLC. Personalized outreach efforts, including one-on-one meetings with reluctant students and ongoing communication with school administrators and parents, are essential for increasing student engagement and participation at the NLC, as noted by respondents.

Personalized outreach efforts, such as one-on-one meetings with reluctant students and ongoing communication with school administrators and parents, can increase student engagement and participation. According to Bond et al (2001) building rapport, addressing concerns, and highlighting the unique learning opportunities provided by the camp can create a supportive environment that encourages students to actively participate.

Scholarship Programs and Financial Assistance Initiatives. Offer scholarship programs and financial assistance initiatives to support learners from underprivileged backgrounds and mitigate financial barriers to attendance. Lastly, scholarship programs and financial assistance initiatives are identified as vital for promoting inclusivity and accessibility at the NLC.

By providing support to learners from underprivileged backgrounds, these programs ensure that financial barriers do not hinder participation. Creating an inclusive learning environment that welcomes students from diverse backgrounds contributes to the overall success and impact of the camp (Dongier et al, 2003)

IV. Conclusion

The diverse demographics of the respondents, encompassing varying ages, genders, teaching positions, years of service, educational backgrounds, civil statuses, and school affiliations, provide a multifaceted perspective on the challenges faced by science teachers during national learning camp experiences. The main challenges encountered by volunteer science

teachers at the National Learning Camp (NLC) present significant hurdles to the effective delivery of science education. Issues such as insufficient budget for meals, lack of support and briefing, diverse backgrounds of participants, limited resources and facilities, and attendance and participation challenges all impact the quality and inclusivity of the learning experience. Addressing these challenges requires proactive measures, including advocacy for increased funding, robust support systems for volunteer teachers, adaptation of teaching methods to accommodate diverse learners, innovative approaches to resource utilization, and strategic efforts to foster engagement and attendance among participants. By acknowledging and actively working to overcome these challenges, the NLC can better fulfill its mission of providing enriching science education experiences for all participants. Various strategies and initiatives have been implemented to address the challenges encountered by volunteer science teachers at the National Learning Camp (NLC). Pre-camp training sessions and workshops equip teachers with essential skills and knowledge, while mentorship and support systems provide ongoing guidance and alleviate feelings of stress and burnout. Collaborative efforts involving teachers, parents, and community stakeholders mobilize support and resources, enhancing the overall learning environment. Incorporating project-based learning activities fosters critical thinking and problem-solving skills among participants, while integrating technology supplements traditional teaching methods, enriching students' learning experiences.

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