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# Lived Experiences of Social Studies Teachers Handling National Mathematics Program: Basis for Professional Training Intervention Program

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## INTRODUCTION

### Background of the Study

As a social studies teacher, I've devoted my career to helping students explore the complexities of history and society, encouraging meaningful discussions that link the past to the present. Mathematics, with its numbers and formulas, always felt like a separate world from my area of expertise. However, with recent shifts in educational priorities and a shortage of math teachers, I unexpectedly found myself stepping into the unfamiliar territory of teaching mathematics. This transition not only pushed me to rethink my teaching approaches but also highlighted the urgent need for professional development that supports educators adapting to new roles.

The issue of teachers instructing subjects outside their areas of expertise, known as out-of-field teaching, is a significant concern globally. This practice often arises due to teacher shortages or mismanagement, leading educators to teach subjects for which they lack formal training. Out-of-field teaching is widespread across various education systems. For instance, the 2018 Teaching and Learning International Survey (TALIS) reported that in at least 40 education systems, over 10% of lower secondary science and mathematics teachers lacked formal education or training in these subjects. In countries like Georgia and Saudi Arabia, fewer than 60% of science and mathematics teachers had received training in their respective subjects. In the United States, data from the 1990-91 Schools and Staffing Survey indicated that approximately 25% of public school students enrolled in mathematics classes in grades 7-12 were taught by teachers without at least a minor in mathematics or mathematics education.

A report by the Second Congressional Commission on Education (EDCOM 2) revealed that 62% of public high school teachers are teaching subjects they did not major in during college. This widespread mismatch indicates that many educators, including history teachers, are assigned to teach mathematics and other subjects outside their specialization.

A study at Sultan Kudarat State University-Laboratory Science High School explored the effectiveness of such approaches, indicating a commitment to enhancing teaching methodologies and potentially supporting teachers transitioning to new subject areas. Addressing the issue of out-of-field teaching in Sultan Kudarat requires ongoing professional development, strategic teacher deployment, and the implementation of innovative teaching methods to ensure educators are well-equipped to deliver quality education across all subjects. The Department of Education (DepEd) has organized training programs aimed at enhancing teachers' competencies in specific

subjects. For instance, the DepEd Division of Tacurong City, within Sultan Kudarat, conducted a Division Training for Grade 4-6 Teachers focusing on mathematics instruction through pedagogical strategies. Such initiatives aim to equip teachers with the necessary skills to effectively teach subjects outside their original specialization.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Recent studies highlight that out-of-field teaching often results **in** reduced instructional quality and lower student performance**,** especially in high-cognitive-demand subjects like mathematics (Ghasemian & Pourrajab, 2023). Teachers without formal training in mathematics typically struggle with deep content understanding, pedagogical content knowledge (PCK), and classroom confidence—factors that are essential for effective math instruction (Hill, Ball, & Schilling, 2022).

There is a lack of research specifically investigating the lived experiences of Social Studies teachers assigned to teach mathematics under the National Mathematics Program (NMP). Existing studies do not adequately capture their emotional challenges, instructional adjustments, coping mechanisms, or professional growth needs, nor have these experiences been systematically used to inform the design of targeted, practice-based professional training programs**.**

This study explores the lived experiences of Social Studies teachers handling the NMP at Isulan National High School. It aims to examine their competency skills, challenges, and coping mechanisms to provide insights for developing a professional training program tailored to their needs. By addressing these demands, this research seeks to improve teachers' performance and enhance the overall success of the NMP

**Theoretical and Conceptual Framework**

This study is anchored in three foundational theories: Pedagogical Content Knowledge (PCK), Self-Efficacy, and Community of Practice (CoP), which collectively guide the understanding of competency skills, challenges, and coping mechanisms of Social Studies teachers assigned to teach the National Mathematics Program (NMP).

**Pedagogical Content Knowledge (PCK) Theory**, introduced by Shulman (1986), emphasizes the integration of subject knowledge with effective teaching strategies. PCK highlights the importance of understanding mathematical concepts and presenting them in ways that promote student learning. Social Studies teachers, often lacking formal math training, face the dual challenge of acquiring math content knowledge and developing strategies to make it accessible to students. This theory underpins the need for professional development programs that build both mathematical knowledge and teaching methodologies tailored to non-specialist teachers, bridging the gap between their expertise in Social Studies and the requirements of the NMP.

**Self-Efficacy Theory**, developed by Bandura (1977), focuses on individuals' confidence in their ability to perform tasks successfully. For Social Studies teachers teaching math, self-efficacy is critical, as low confidence can lead to stress, reduced motivation, and diminished teaching performance.

Teachers with higher self-efficacy are more likely to adopt adaptive strategies and persist in challenging situations. Building self-efficacy through targeted interventions, mentorship, and skill-building activities can empower these teachers to approach math instruction with resilience and competence, thereby improving both teacher satisfaction and student outcomes.

**Community of Practice (CoP) Theory**, proposed by Lave and Wenger (1991), emphasizes the role of social learning through shared experiences and collaboration within a professional network. For Social Studies teachers handling math under the NMP, a community of practice provides a platform to share resources, exchange best practices, and collectively address challenges. Collaborative networks foster continuous learning, enabling teachers to navigate the complexities of cross-disciplinary teaching more effectively. This theory highlights the importance of peer support and shared expertise in creating a supportive environment for professional growth.

By integrating these theoretical perspectives, this study aims to inform the design of professional training programs that address competency gaps, mitigate challenges, and enhance coping mechanisms for Social Studies teachers assigned to the NMP. These frameworks provide a robust foundation for understanding and supporting the unique experiences of teachers navigating cross-disciplinary roles.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Statement of the Problem**

This study aimed to explore the competency skills, challenges, and coping mechanisms of Social Studies teachers assigned to teach the National Mathematics Program (NMP) at Isulan National High School. As these teachers primarily specialized in non-mathematical subjects, they face unique difficulties adapting to the requirements of teaching math content effectively. Hence,the study sought to identify the specific competencies these teachers possess, the challenges they encounter in delivering the NMP, and the strategies they utilize to cope with these challenges. The insights derived from this research may inform the development of a professional training program that addresses the specific needs of Social Studies teachers in cross-disciplinary teaching roles.

Specifically, this study addressed the following question:

What are the competency skills of Social Studies teachers in teaching the National Mathematics Program?

What challenges do Social Studies teachers face while teaching the National Mathematics Program?

What coping mechanisms do Social Studies teachers employ to address the challenges in teaching the National Mathematics Program?

What is the general acceptability of developed intervention program?

**Significance of the Study**

This study is significant in understanding and addressing the unique challenges faced by Social Studies teachers who are assigned to teach mathematics under the National Mathematics Program (NMP). By examining the competency skills, challenges, and coping mechanisms of these teachers, the research aimed to provide insights that may support the development of targeted professional training programs.

These programs may help Social Studies teachers overcome the difficulties of teaching math, ultimately enhancing their effectiveness and improving student outcomes. The study's findings may benefit the educational institutions and policy makers, school administrators, social studies teachers, students and future reserchers.

**Social Studies Teachers Assigned to NMP.** The primary beneficiaries of this study are the Social Studies teachers tasked with teaching the NMP. By highlighting the skills they need, the challenges they face, and the coping mechanisms that work best, the study may help these teachers better understand their strengths and areas for improvement. It also provides recommendations for personal and professional growth, equipping them with strategies to manage the demands of cross-disciplinary teaching and improve their instructional efficacy in math.

Students. The sudents may benefit from this study as it aims to enhance the quality of math instruction delivered by their Social Studies teachers. By improving teachers' competency in math instruction and reducing the challenges they face, students are likely to experience a more positive and effective learning environment. This may lead to increase engagement, improved numeracy skills, and greater academic achievement in mathematics.School Administrators. For school administrators, especially at Isulan National High School, this study may serve as a basis for understanding the professional needs of their Social Studies teachers assigned to teach math. The insights gained may guide administrators in developing support strategies, facilitating collaboration among teachers, and creating an environment that addresses the specific challenges faced by out-of-field teachers. This may improve teacher's morale, retention, and overall teaching quality.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Department of Education (DepEd)and Policy Makers.** The study may valuable data on the experiences of teachers in out-of-field assignments, particularly in the context of the NMP. The findings may be reference for the provision of teachers' training, resource allocation, and support structures for out-of-field teachers, contributing to a more effective implementation of national programs like the NMP.

**Future Researchers.** Lastly, this study may serve as a valuable reference for future researchers exploring the complexities of out-of-field teaching or cross-disciplinary instruction. By providing empirical data on the experiences of Social Studies teachers in the NMP, this study contributes to the broader literature on teacher competency, cross-disciplinary challenges, and coping strategies, offering a foundation for further research in these areas.

**Scope and Delimitations.**

This study focuses on exploring the competency skills, challenges, and coping mechanisms of Social Studies teachers assigned to teach the National Mathematics Program (NMP) at Isulan National High School for school year 2024-2025. The scope is limited to 12 Social Studies teachers within this school, who are expected to provide insights into their experiences with the NMP, including their preparedness, the obstacles they encounter, and the strategies they use to manage these challenges. The study specifically examines these teachers' perspectives in the context of an out-of-field teaching assignment, where they are tasked with delivering math content despite a primary background in Social Studies.

This research does not cover other subjects within the NMP or other schools implementing the program, as the findings are intended to provide a focused understanding of Social Studies teachers' experiences in this particular setting. Additionally, the study does not address the effectiveness of student outcomes under the NMP, as its primary aim is to explore the teachers' experiences and needs. By narrowing the scope in this way, the study aims to produce detailed, cont

The following terms are defined to provide clarity and ensure a common understandi ext-specific findings that may inform targeted professional development for teachers in similar situations.

**Definition of Terms**

The following terms are defined tom provide clarity and ensureng of key concepts used throughout this study.

**Challenges** refers to difficulties, obstacles, or problems that need to be faced, managed, or overcome.These are the difficulties and barriers faced by Social Studies teachers while teaching math under the NMP. These may include a lack of training in mathematics, anxiety about teaching an unfamiliar subject, limited confidence in math instruction, and the need for additional preparation to meet the requirements of the NMP.

**Community of Practice (CoP)** refers to a collaborative network or group of teachers who share experiences, resources, and best practices to support each other in teaching math content as out-of-field instructors. CoP facilitates peer support, knowledge sharing, and professional growth for Social Studies teachers involved in NMP.

**Competency Skills** refers to the specific knowledge, instructional abilities, and pedagogical techniques required for Social Studies teachers to effectively deliver mathematics content as part of the National Mathematics Program (NMP). This includes their understanding of math concepts, their ability to engage students in learning, and their proficiency in adapting math instructional strategies.

**Coping Mechanisms** pertains to the strategies employed by Social Studies teachers to manage stress and address the challenges they face in teaching math as an out-of-field subject. Examples include seeking peer support, self-directed learning, and employing stress management techniques to improve their resilience and adaptability in teaching math.

**National Mathematics Program (NMP)** refers to specialized program implemented by the Department of Education as part of the National Learning Recovery Program.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Out-of-Field Teaching** refers to Social Studies teachers assigned to deliver mathematics content under the NMP, despite not having a primary background in math.

**Professional Training Program Intervention** refers to a structured training program designed to improve the skills and confidence of Social Studies teachers in teaching math as part of the NMP. The intervention aims to address competency gaps, reduce challenges, and support the development of effective coping mechanisms for teachers in out-of-field assignments.

## Review Of Related Literature And Studies

Out-of-field teaching, where educators teach subjects outside their primary expertise, presents unique challenges requiring specific support and adaptation. This chapter reviews recent literature on the competencies needed for effective out-of-field math instruction, the challenges of cross-disciplinary teaching, coping strategies, and the impact of professional development on teaching efficacy. These themes provide a foundation for the current study, which seeks to address the needs of Social Studies teachers in the National Mathematics Program (NMP) and inform a tailored professional development program.

## Competencies Required for Teaching Mathematics as an Out-of-Field Subject

The challenges faced by non-specialist teachers in delivering mathematics content have garnered significant attention in recent years, especially in situations where educators are assigned to teach subjects outside their primary expertise. Hatisaru (2023) highlighted the experiences of two non-specialist teachers who engaged in teaching algebra for a year, emphasizing the importance of collaborative learning through study groups. These opportunities enabled the teachers to improve their mathematical pedagogy and better understand students' thought processes, ultimately boosting their confidence in teaching mathematics. This aligns with findings by Denbel (2023), who reported substantial deficiencies in subject matter knowledge among postgraduate trainee teachers, stressing that these gaps negatively affect teaching quality and student comprehension in mathematically intensive subjects. These studies collectively underline the necessity of structured support and professional development for teachers who transition into unfamiliar subject areas such as mathematics.

Further supporting this notion, Gorlova and Makarova (2019) examined the role of competency-based education in mathematics, emphasizing the importance of fostering autonomous learning and problem-solving skills. The researchers argued that for teachers to facilitate these competencies in students, they must possess robust subject matter knowledge and effective pedagogical strategies. This view is corroborated by Podkhodova et al. (2020), who found that retraining programs tailored to address specific pedagogical and content knowledge gaps significantly enhance the confidence and instructional proficiency of out-of-field teachers. Such targeted interventions are particularly relevant to Social Studies teachers tasked with implementing the National Mathematics Program (NMP), as these teachers often lack formal training in mathematics, making them reliant on professional development programs to bridge these competency gaps.

In addition to technical skills, the emotional preparedness of teachers plays a crucial role in their teaching effectiveness. Tiwari et al. (2022) explored the impact of emotional challenges on mathematics instruction, finding that teachers who lacked confidence in math often exhibited anxiety and negative attitudes toward the subject. This emotional barrier not only affects teaching performance but also influences students' engagement and learning outcomes. Hatisaru (2023) and Gorlova and Makarova (2019) further emphasized that professional development programs must incorporate strategies for emotional support, helping teachers to build resilience and adopt a positive approach to math instruction.

These studies emphasize the multifaceted nature of competencies required for effective mathematics instruction by out-of-field teachers. They highlight the critical need for professional development programs that address both technical and emotional challenges. For Social Studies teachers engaged in the NMP, such programs should focus on building foundational math knowledge, equipping teachers with effective pedagogical strategies, and fostering emotional readiness to enhance their confidence and teaching efficacy. These insights directly inform the objectives of the current study, underscoring the importance of a holistic approach to professional training interventions.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

## Challenges Faced by Out-of-Field Teachers in Cross-Disciplinary Roles

The challenges of out-of-field teaching, where educators are assigned subjects outside their primary expertise, require significant psychological and logistical adaptation. Wang and Lin (2021) identified structural and content-related barriers as key hurdles, particularly for teachers grappling with unfamiliar subjects. They emphasized the utility of knowledge graphs, which provide a visual and organized framework for unfamiliar content, enabling teachers to understand and deliver lessons effectively. This strategy is particularly relevant to Social Studies teachers under the National Mathematics Program (NMP), where such tools could support their adjustment to teaching math content. Similarly, Sánchez-Ibáñez et al. (2021) highlighted the importance of targeted training, noting that out-of-field teachers often feel underprepared and require professional development to meet new teaching demands. These findings underscore the necessity of continuous learning support for Social Studies teachers in cross-disciplinary roles.

Psychological challenges also feature prominently in out-of-field teaching. Cormier et al. (2022) explored the pressures faced by teachers in roles that misalign with their expertise and identity, revealing that such misalignment can lead to reduced confidence and effectiveness. While their study focused on racial dynamics, it also highlighted broader issues of professional identity and alignment that resonate with Social Studies teachers assigned to teach math. Hoang (2022) expanded on this, emphasizing the cognitive shifts required when transitioning between disciplines. His research found that adapting to a new subject like mathematics involves overcoming significant cognitive and pedagogical barriers, which can strain teachers unfamiliar with math's logical and problem-solving focus.

Addressing these challenges often requires collaborative support. Gargroetzi et al. (2021) explored the benefits of teacher communities of praxis, which foster collaborative learning and shared experiences. Such communities help teachers navigate the complexities of adapting to new instructional practices, building confidence, and enhancing teaching effectiveness. Sánchez-Ibáñez et al. (2021) and Wang and Lin (2021) similarly advocated for peer support and knowledge-sharing platforms to mitigate the difficulties of out-of-field teaching, reinforcing the value of collaborative networks for Social Studies teachers teaching mathematics under the NMP.

These studies demonstrate that cross-disciplinary teaching challenges extend beyond technical skill deficits to include identity, confidence, and cognitive adaptation issues. They highlight the importance of targeted professional development, collaborative support systems, and innovative tools like knowledge graphs to equip Social Studies teachers with the resources needed to overcome these barriers. This foundation supports the present study’s aim to develop structured interventions that address the unique demands of out-of-field teaching in the NMP.

## Coping Mechanisms and Adaptation Strategies for Out-of-Field Teaching

Out-of-field teaching necessitates the use of various coping mechanisms and strategies to navigate the challenges of teaching subjects beyond one's expertise. Lagria (2021) highlighted that out-of-field teachers rely on self-directed learning, targeted training, and peer collaboration to compensate for their lack of subject-specific training. These findings align with those of Relacion and Abadiano (2020), who emphasized the significance of institutional support in fostering teachers' adaptability. Their study revealed that policies acknowledging out-of-field challenges enable teachers to develop confidence and resilience, which are critical for Social Studies teachers handling the National Mathematics Program (NMP).

Collaborative frameworks also play a crucial role in supporting teachers. De Carvalho-Filho, Tio, and Steinert (2020) emphasized the benefits of Communities of Practice (CoPs), which create opportunities for teachers to engage in shared learning and resource exchange. CoPs offer a platform for educators to collaboratively address challenges, refine teaching strategies, and build confidence. Similarly, Prenger, Poortman, and Handelzalts (2019) underscored the value of networked professional learning communities (PLCs), which enable teachers to share best practices and foster professional growth. These collaborative structures are particularly beneficial for Social Studies teachers in the NMP, as they provide a supportive environment to address math-specific challenges.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Another vital element in coping is self-efficacy. Katigba and Andal (2023) found that teachers with high self-efficacy are better equipped to manage teaching challenges and adopt adaptive practices. This aligns with Bandura's (1977) Self-Efficacy Theory, which posits that confidence in one's abilities is integral to overcoming obstacles and achieving goals. For Social Studies teachers tasked with teaching math, developing self-efficacy through structured support and training programs can reduce anxiety and enhance teaching effectiveness.

These studies highlight the importance of multifaceted coping mechanisms, including institutional support, collaborative networks, and self-efficacy development. By integrating these elements into professional development programs, Social Studies teachers can better adapt to the demands of the NMP, ultimately leading to improved teacher satisfaction and student outcomes.

**Impact of Professional Development and Support Systems on Out-of-Field Teachers**

Professional development and support systems play a crucial role in helping out-of-field teachers adapt to teaching unfamiliar subjects. Kenny, Hobbs, and Whannell (2020) highlighted that tailored professional development programs significantly enhance teachers' confidence and subject understanding, particularly for those teaching outside their expertise. Similarly, Paolucci (2021) emphasized the transformative potential of professional development in improving content mastery and pedagogical strategies. For Social Studies teachers assigned to the National Mathematics Program (NMP), such customized training can bridge gaps in mathematical knowledge and pedagogy, fostering greater instructional effectiveness.

The role of supportive school environments in professional adaptation has also been documented. Du Plessis, Hobbs, Luft, and Vale (2019) stressed that collaboration, guidance, and resource sharing within schools empower out-of-field teachers to manage curriculum challenges. Their findings align with Kalinowski, Egert, Gronostaj, and Vock (2020), who demonstrated that professional development not only enhances instructional quality but also improves teachers' ability to support student learning. In the context of Social Studies teachers in the NMP, fostering a collaborative and resource-rich school culture could mitigate initial difficulties and establish a foundation for sustained teaching success.

Structural reforms in teacher education are equally vital. Hobbs and Porsch (2021) called for integrating subject-specific training into pre-service teacher education to address the systemic challenges of out-of-field teaching. Their insights complement those of Paolucci (2021), who noted that while professional development programs are impactful, they require ongoing support to ensure long-term effectiveness. These findings suggest that equipping Social Studies teachers with targeted training for NMP will not only improve their teaching efficacy but also positively influence student performance in mathematics.

These studies underscore the importance of aligning professional development with teachers' unique needs, fostering supportive school environments, and addressing systemic issues in teacher education. For Social Studies teachers in the NMP, such measures are critical to overcoming the challenges of cross-disciplinary teaching, ensuring both teacher confidence and improved student outcomes. This study builds on these insights to advocate for a comprehensive professional development program tailored to the specific demands of out-of-field mathematics instruction.

## METHODOLOGY

The chapter covers the research design, locale of the study, participants, oh the study, sampling technique,data gathering instrument,data gathering procedure, and data analysis approach, ethical consideration, trustworthiness, and researcher’s positionality all chosen align with the study's objectives.

**Research Design**

This study employs a qualitative research design, specifically using a phenomenology research design and descriptive approach and to gain an in-depth understanding of the competency skills, challenges, and coping mechanisms of Social Studies teachers assigned to teach the National Mathematics Program (NMP) at Isulan National High School. Qualitative research is suitable for exploring complex experiences and perceptions,

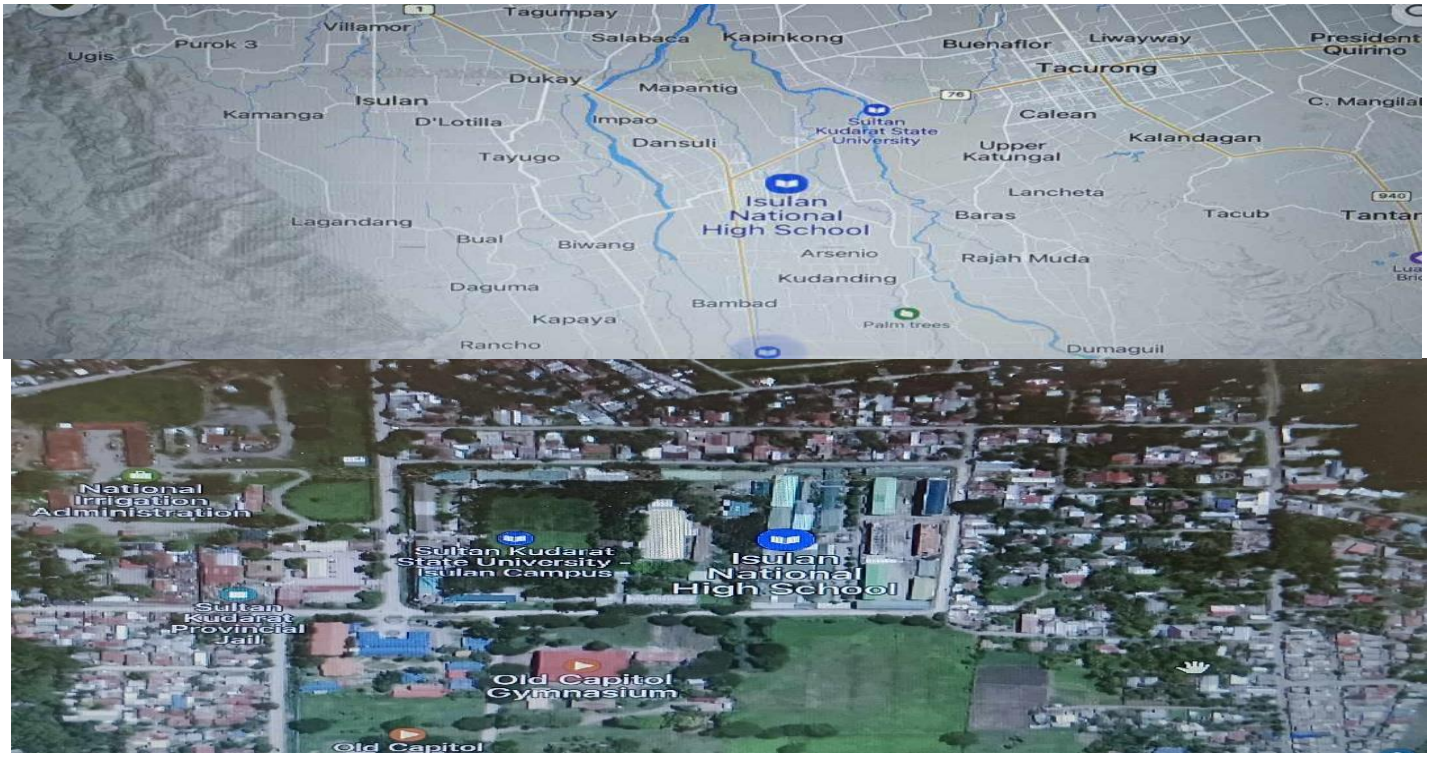
ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

allowing researchers to capture nuanced insights from participants (Creswell & Poth, 2018). The phenomenology research design is a qualitative research design that focuses on the understanding people's personal experiences, feelings and thoughts. The descriptive approach in qualitative studies provides a detailed account of phenomena as they naturally occur, focusing on "what" and "how" questions to document participants' experiences and contexts (Sandelowski, 2000). This design is particularly valuable for the current study, as it enables a thorough examination of how Social Studies teachers perceive and respond to the demands of teaching mathematics.

By exploring the lived experiences of Social Studies teachers, the study aims to provide meaningful insights that could guide the development of professional training interventions. Qualitative descriptions are particularly effective for studies seeking to document and understand practical, real-world challenges (Merriam & Tisdell, 2016), which aligns with the study's goal of identifying the specific support needs of out-of-field teachers in the NMP.

**Locale of the Study:** This study was conducted at Isulan National High School, a public secondary school under the supervision of the Department of Education (DepEd). The school was chosen as the locale due to its participation in the implementation of the National Mathematics Program (NMP), which is part of the Department of Education's MATATAG agenda aimed at addressing learning gaps in mathematics (DepEd Order No. 8, s. 2023). This context provides a practical and relevant setting to explore the challenges and coping mechanisms of Social Studies teachers tasked with out-of-field instruction in mathematics.

Isulan National High School served as a representative site where national education policies like the NMP are operationalized, reflecting the broader realities of out-of-field teaching assignments in the Philippines. The selection of this school was aligned with the objective of studying the lived experiences of teachers adapting to cross-disciplinary teaching demands, which is crucial for informing targeted professional development interventions. Additionally, the Department of Education's directive to improve numeracy skills through programs like the NMP makes this school an ideal venue for the study, as it highlights the policy's direct impact on teacher roles and responsibilities (DepEd, 2023). Insights gathered from this context can contribute to designing interventions applicable not only to Isulan National High School but also to similar educational settings facing comparable challenges.



Source: Mapbox.com

Figure 1. Map of the locale of the Study

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Particpants of the Study**

The respondents of this study are twelve Social Studies teachers at Isulan National High School assigned to teach mathematics under the National Mathematics Program (NMP). These teachers were selected because they exemplify the challenges of out-of-field teaching, which occurs when educators are required to teach subjects outside their primary areas of expertise. Studies have shown that out-of-field teachers often encounter difficulties in delivering subject-specific content effectively due to limited training and expertise in the assigned subject, making their experiences critical for research on professional development needs (Hobbs & Porsch, 2021; Du Plessis et al., 2019).

The selection of these teachers was aligned with the study's aim to explore the competencies, challenges, and coping mechanisms associated with out-of-field teaching. Their perspectives are essential for understanding the specific support required to enhance teaching effectiveness in mathematics, a subject often regarded as challenging even for specialists (Denbel, 2023). By focusing on this group, the study sought to generate insights to provide professional training programs, which are proven to improve confidence, teaching efficacy, and student outcomes in out-of-field teaching contexts (Kenny et al., 2020; Paolucci, 2021).

**Sampling Technique**

This study utilized purposeful or purposive sampling are typical in phenomenological studies (e.g., Smith, Flowers, & Larkin, 2022).This technique involved selecting participants based on specific criteria that align with the research objectives. This is particularly effective for this study as it allows for the intentional selection of participants who possess specific characteristics and experiences relevant to the research focus (Patton, 2015). In this case, all twelve Social Studies teachers at Isulan National High School who are assigned to teach mathematics under the National Mathematics Program (NMP) were included in the study.

By surveying all eligible teachers, the study ensures a thorough exploration of the competency skills, challenges, and coping mechanisms within this specific group. It was only intended for all Social Studies teachers.This approach provides a complete and representative dataset that enhances the study's validity and allows for a more robust understanding of the needs and experiences of Social Studies teachers teaching math.

**Research Instrument**

The primary data gathering instrument were used in this study was semi-structured interview guide (Creswell (2021)saying that interviews are ideal for exploring lived experiences in qualitative research.**.** The questionnaires was validated by a panel of experts including a professor, master teacher and research coordinators. This tool was designed to facilitate in-depth exploration of the experiences, competencies, challenges, and coping mechanisms of Social Studies teachers assigned to teach the National Mathematics Program (NMP) at Isulan National High School. Semi-structured interviews are suitable for qualitative research, as they allow for flexibility in questioning while ensuring that key topics are covered consistently across respondents (Kallio et al., 2016).

The interview guide was structured around several main topics: teachers' competency in mathematics instruction, the specific challenges they face in delivering math content, and the strategies they use to adapt and cope with out-of-field teaching demands. Follow-up questions was included to allow respondents to elaborate on their answers, providing richer data for analysis. This approach enables the researcher to capture both the breadth and depth of respondents' experiences, offering insights that are essential for developing a targeted professional training program.

The use of semi-structured interviews also encourages teachers to share their perspectives openly, fostering a conversational environment that can yield detailed and nuanced responses. The data collected through this instrument was audio-recorded, transcribed, and thematically analyzed to identify patterns and themes that align with the study's objectives.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Data Gathering Procedure**

The data gathering process for this study involved several key steps, each designed to ensure a comprehensive and ethical approach to collecting data from Social Studies teachers at Isulan National High School assigned to the National Mathematics Program (NMP).

Permission and ethical approval were obtained from the school administration of Isulan National High School, along with ethical clearance from the appropriate institutional review board. This step ensures that the study meets ethical standards and respects the rights and confidentiality of the participants (Creswell & Poth, 2018).

Following approval, participants were selected based on the study's purposive sampling criteria. Teachers were informed about the study's purpose, their role, and their rights as participants, including their right to withdraw at any time. Informed consent was obtained from each participant to ensure voluntary participation (Merriam & Tisdell, 2016).

The interview with the participants was scheduled at their convenient times ensuring minimal disruption to their teaching responsibilities. Each interview will lasted approximately 45–60 minutes and was conducted in a private setting to encourage openness and confidentiality. The researcher will followed the semi-structured interview guide to ,ensure that key areas competencies, challenges, and coping mechanisms are consistently explored, while allowing for flexibility to delve into any emerging topics.

All interviews were audio-recorded with participants' consent to ensure accurate data capture. After each interview, the audio recordings were transcribed verbatim, preserving the teachers' exact responses for a faithful representation of their perspectives. The researcher was then reviewed the transcripts for accuracy and completeness.

To enhance the trustworthiness of the data, participants were given the opportunity to review their interview transcripts. This process, known as member checking, allows respondents to confirm the accuracy of their statements and clarify any points if needed (Lincoln & Guba, 1985).

When the data collection was complete, the transcripts underwent thematic analysis to identify key patterns and insights relevant to the research objectives. Themes were developed based on the competencies, challenges, and coping strategies of the teachers, providing a foundation for recommendations in professional training.

This systematic procedure was designed to ensure ethical standards, participant comfort, and data accuracy, resulting in robust findings that inform the development of a professional training program for Social Studies teachers in the NMP

**Data Analysis**

This study employed a qualitative research design; thus, traditional statistical treatment is not applicable. Instead, the data collected through semi-structured interviews was analyzed using thematic analysis, a widely recognized qualitative method for identifying, analyzing, and reporting patterns or themes within data (Braun & Clarke, 2006).

Thematic analysis started with data familiarization, where the researcher reviews and repeatedly reads the interview transcripts to immerse themselves in the content and gain an understanding of emerging ideas and topics. This was followed by initial coding, where relevant segments of the transcripts were systematically labeled to capture key aspects related to the participants' competencies, challenges, and coping mechanisms in teaching the National Mathematics Program (NMP).

Next, the researcher identified broader themes by grouping related codes, focusing on major patterns aligned with the study's objectives. Themes included competency skills, challenges in teaching mathematics as an out-of-field subject, and coping mechanisms. The themes were then reviewed and refined to ensure they accurately represent the data, which involved combining, discarding, or redefining themes for clarity and coherence.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Each theme is clearly defined and named to capture the essence of the insights gained from the data. Finally, the researcher interprets the themes within the context of the research questions, drawing connections between the findings and the broader objectives of the study to develop meaningful conclusions and actionable recommendations.

This thematic analysis provides a structured and systematic approach to analyzing qualitative data, enabling the researcher to derive detailed insights from participants' experiences. These insights are essential for informing the development of professional training programs tailored to the needs of Social Studies teachers teaching the NMP.

**Ethical Considerations:** The researchers guaranteed the confidentiality of the information provided and used it for academic purposes only. A guarantee of the participant's voluntarism was also be vital, and they had the option to decline participation if they believe doing so would be harmful. In order to fulfill its reliability, results were treated with the utmost fairness. The following was ensured by the researcher as ethical considerations:

A pledge of confidentiality. Assuring all of the information they supply were handled with the highest confidentially in accordance with research ethics.
**Consent to access personal data**. Participants were permitted the access to personal information.

**Voluntary agreement.** Participants' involvement was entirely voluntary They might or might not offer responses to the study's queries.
**Information Withdrawal and Withholding Rights**. Anytime a respondent feels uncomfortable, they are free to leave the study without having to do anything. The study may or may not receive information from the respondents.

**Benefits of the Participants**. The teacher participants in this study stand to benefit significantly from sharing their lived experiences, as it provides them an opportunity to reflect on and articulate the challenges and successes they have encountered in the realms of infusion, diffusion, and acculturation in instructional training. This reflective process not only contributes to their professional growth but also offers insights that can inform and enhance teaching practices within the Social Studies discipline. Additionally, to express gratitude for their valuable time and input, each participant was given a simple token of appreciation, acknowledging their contribution to the advancement of educational research and practice. This gesture underscores the importance of their role in shaping a deeper understanding of effective instructional methodologies.

**Trustworthiness of the Study**

Trustworthiness in research is critical for ensuring that findings are credible, reliable, and applicable. It encompasses several components, including credibility, transferability, dependability, and confirmability. This literature review explores various strategies and methodologies that researchers can employ to enhance the trustworthiness of their studies.

Strengthening the trustworthiness of research studies is essential for producing credible and impactful findings. By employing strategies such as, member checking, peer debriefing, purposeful sampling, code and recode reliability, and reflexivity .Researchers may enhance the credibility, transferability, dependability, and confirmability of their studies. In the conduct of this study, these practices greatly helped contribute to the integrity of research and foster a deeper understanding and application of the findings in real-world contexts.

One way to improve transferability in this study was to provide a full description of the research setting and the main assumptions that guided the study. It was then the researcher's duty to determine whether the results may be appropriately transferred to the new context.

Dependability on the other hand required the evaluation of the study's findings, interpretations, and suggestions by the participants in such a way that each is supported by the data collected from the participants. Confirmability actively seeks out and recorded any bad examples that are inconsistent with past findings. A

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

data audit was carried out by the researcher to assess the methods used for data collection and analysis and the likelihood of bias or distortion.

**Researcher's Positionality**

The researcher's positionality is a vital element of qualitative research that influences the research process, data interpretation, and ethical considerations. Recognizing and understanding positionality can enhance the depth and credibility of research findings. In this study, the researcher's positionality as a teacher in the research locale served an advantage for the conduct of the data gathering procedure. It likewise played a crucial role in making informed observations for the interpretation of the data gathered.

As a Social Studies teacher for 8 years the researcher was driven by empathy and understanding in which my research focuses on navigating adolescence on the lived experiences of Social Studies teachers handling National Mathematics Program: basis for rofessional training program intervention. This qualitative study explored the experiences of open high school students through an empathetic lens. Thus, she was committed to profoundly influencing the lives of my students by preparing them to face challenges with strong character and a clear sense of values. Beyond academic success, it is my mission to ensure that students develop emotionally, socially, and spiritually, becoming well-rounded individuals ready to contribute positively to society.

Pursuing her Master of Arts in Teaching, majoring in Social Studies, has been a journey marked by perseverance, determination, and commitment. Balancing professional responsibilities with academic demands, especially under the constraints of amnesty status and a strict timeline, has been challenging yet transformative. This experience has enriched my instructional expertise, honed my research skills, and deepened my empathy for open high school students.

**Presentation, Analysis, And Interpretation Of Data**

This chapter presents the findings of the study based on the data gathered from Social Studies teachers assigned to teach Mathematics under the National Mathematics Program (NMP). The responses were analyzed thematically to identify common patterns, challenges, and coping mechanisms among the participants. The discussion provides an in-depth examination of the teachers' perspectives, supported by relevant literature, to interpret the implications of their experiences. Each research question was addressed through the presentation of key themes, allowing for a comprehensive understanding of the issues surrounding out-of-field teaching in Mathematics.

The participants of this study represent a group of Social studies teachers, varying in age, gender, civil status, educational background, years of teaching experience. It discloses the profiles of the twelve (12) participants who took part in the data collection procedure of this study. These participants are teachers at Isulan National High School.

**Presentation and Discussion of Findings**

Table 1. Competency Skills of Social Studies Teachers in Teaching the

**National Mathematics Program**

| **Significant Statements** | **Initial Code** | **Initial Themes** | **Categories** | **Emergent Themes** |
|---|---|---|---|---|
| "I have been teaching Social Studies for the past 10 years, gaining valuable | Teaching Experience | Extensive Social Studies teaching experience | Subject-Specific Experience | **Challenge of Transitioning from Humanities to Mathematics Instruction** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

| | | | | |
|---|---|---|---|---|
| experience, but don't have any background teaching math...<br><br>- Mary | | | | |
| "I've been teaching and handling Araling Panlipunan for almost 11 years now..."- Risa | Professional Longevity | Length of teaching experience in Social Studies | Experience in Social Studies Teaching | |
| "There was no introduction; I was just given a schedule and had to start teaching right away. I was shocked..." Ana | Lack of Orientation/Introduction | Sudden assignment to teach Mathematics | Lack of Orientation and Training | **Lack of Preparedness and Anxiety in Teaching Mathematics** |
| "I was a bit surprised because it wasn't part of my lineup. I was shocked because I didn't expect to teach Math."<br><br>-Joy | Unexpected Assignment | unpreparedness | Professional preparedness | |
| "Oh, I was shocked and I was afraid because I am not good in Mathematics." Mona | Lack of Confidence in Subject Matter (Mathematics) | Fear and apprehension towards Mathematics | Anxiety and Stress | |
| "To effectively teach Mathematics under the | Importance of Deep Understanding of Mathematical Concepts | Importance of subject mastery and explanation | Need for Competency Development | **Mastery of core mathematical concepts** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

| | | | | |
|---|---|---|---|---|
| National Mathematics Program (NMP), strong subject management and a deep understanding of mathematical concepts are essential." Mary | | skills | | |
| "I think students will be introduced first to the basic skills of Math like addition, subtraction, multiplication, and also division..." Risa) | Emphasis on Basic Math Skills | Reinforcement of basic mathematical skills | Importance of foundational skills | |
| "I am a graduate of Bachelor of Secondary Education major in Social Studies with 16 years of experience teaching Social Studies."- Kira | Educational Background | Extensive experience in Social Studies | Teacher Background | |
| "I've been teaching Social Studies for 28 years at Isulan National High School." - Shaine | Subject Specialization/Extensive Experience (Social Studies) | Long-term experience in Social Studies | Lack of formal training in Mathematics | |
| "I am a Political Science graduate of | Teaching Experience/Subject Specialization (Social Studies) | Educational background in Political Science | Gap in subject-specific content knowledge | |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

| | | | | |
|---|---|---|---|---|
| MSU Gensan and have been teaching Social Studies for almost twelve years now." Mona | | | | |
| "I have no confidence because I don't know how to teach Math." Ivana | Lack of Confidence | Lack of confidence in teaching Mathematics | Self-Doubt and Insecurity | **Low self-confidence in teaching Mathematics** |
| "From one to 20, I am 5." Shaine | Self-Assessment/Rating (Low Confidence/Proficiency) | Low self-assessment of mathematical competency | Lack of mathematical competency | |

*The results from table 1 highlight the following:* Extensive experience in teaching Social Studies, Length of teaching experience in Social Studies, Sudden assignment to teach Mathematics, *unpreparedness,* Fear and apprehension towards Mathematics, Importance of subject mastery and explanation skills, Reinforcement of basic mathematical skills, Educational background in Political Science, Lack of confidence in teaching Mathematics, Low self-assessment of mathematical competency. *These experiences fall under the categories of* Subject-specific experience, Experience in Social Studies teaching, Lack of orientation and training, *professional preparedness, anxiety and stress,* Need for competency development importance of foundational skills, Teacher background, gap in subject- specific content knowledge, Self-doubt and insecurity and lack of mathematical competency. *There were four (4) Emergent themes included such as the* Challenge of transitioning from Humanities to Mathematics instruction, Lack of preparedness and anxiety in teaching Mathematics, Mastery of core mathematical concepts, *and Low self-confidence in teaching Mathematics*

**Emergent Theme 1: Challenge of Transitioning from Humanities to Mathematics Instruction**

The participants in this study exhibit experience in teaching Social Studies subjects such as History, Economics, Geography, and Political Science. However, none of them have a formal Mathematics background, making their transition to teaching Mathematics under the NMP more challenging. While they possess well-developed teaching strategies for Social Studies, these competencies do not necessarily translate into effective Mathematics instruction.

I have been teaching Social Studies for the past 10 years, gaining valuable

Experience but don't have any background teaching math..." -Mary

I've been teaching and handling Araling Panlipunan for almost 11 years now..." -Risa

Additionally, Ana and Shaine also shared their long-term experience in Social Studies teaching:

Ana : "I am a graduate of Bachelor of Secondary Education major in Social Studies with 16 years of experience teaching Social Studies. I am more on teaching Grade 7 students."

Mika : "I've been teaching Social Studies for 28 years in Isulan National High School

Transitioning from humanities to mathematics instruction presents unique challenges, particularly for Social Studies teachers who often lack formal orientation or training in math education. Without a solid foundation in

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

mathematical pedagogy, these teachers struggle to adapt their teaching strategies, leading to difficulty in planning lessons and addressing student needs. The absence of professional development further compounds the issue, making it harder for them to build confidence and deliver effective instruction in an unfamiliar subject area.

The research has shown that participants are teaching Araling Panlipunan for a how many years implies in-depth understanding of the Social Studies curriculum and how to implement it effectively. However, as Paolucci (2021) pointed out, out-of-field teaching assignments introduce a significant competency gap when teachers are required to instruct a subject outside their primary expertise. This gap is particularly evident in Mathematics instruction, where content knowledge, logical sequencing, and problem-solving skills are critical.

Despite their extensive background, transitioning to Mathematics instruction requires an entirely different set of cognitive and instructional approaches. Hoang (2022) called attention to that cross-disciplinary teaching demands considerable adaptation due to fundamental differences in the cognitive demands of each subject.

**Emergent Theme 2: Lack of Preparedness and Anxiety in Teaching Mathematics**

Teaching mathematics is intimidating , particularly when a teachers feel unprepared. Lack of preparedness and anxiety, can creates a significant barrier not only for teacher but also for the students. And Social studies teachers were expected to teach mathematics without pior professional development, enforcing them to rely on self- study or informal peer support.

"There was no introduction; I was just given a schedule and had to start teaching right away. I was shocked..." Ana

"I was a bit surprised because it wasn’t part of my lineup. I was shocked because I didn’t expect to teach Math." Joy

"Oh, I was shocked and I was afraid because I am not good in Mathematics." Mona

Another major challenge faced by Social Studies teachers was the lack of formal training or preparation before being assigned to teach mathematics. The reason that they cannot perform effectively and confidently on the task given to them. That cause anxiety to most of Social studies teachers because it is not their field of specialization . And to some it is a burden to teach math especially they don’t undergone an orientation or any formal training .

The finding aligns with Du Plessis et al. (2019), who found that out-of-field teachers who do not receive formal training struggle with lesson delivery, student engagement, and instructional confidence. Without structured professional development, teachers are left to navigate unfamiliar subjects on their own, leading to ineffective teaching practices. Sánchez-Ibáñez et al. (2021) also pointed up that targeted professional support, such as training workshops and mentoring programs, is crucial in helping teachers transition into new subject areas.

**Emergent Theme 3: Mastery of Core Mathematical Concepts**

Teachers identified content knowledge, problem-solving, and adaptability as crucial for effectively teaching Mathematics under the NMP. Several respondents stressed the importance of mastering mathematical concepts, even if they were not Mathematics majors.

"To effectively teach Mathematics under the National Mathematics Program (NMP), strong subject management and a deep understanding of mathematical concepts are essential." Mary

"I think students will be introduced first to the basic skills of Math like addition, subtraction, multiplication, and also division..." Dustin

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Mastery of mathematical concepts is a big challenge for Social studies teachers with no background in teaching Mathematics. Lack of understanding in mathematical concepts may lead to low performance in teaching and it reflect also in their students" performance. And it is essential to understand the mathematics concepts first, before teaching it. To achieve, teachers may read books or any instructional materials. And attend some trainings and seminars about mathematics.

The insights align with Denbel (2023), who found that competency development is critical for non-specialist teachers to effectively teach Mathematics. Hatisaru (2023) also foregrounded that structured training programs help out-of-field teachers gain confidence and subject mastery

**Emergent Theme 4: Low self-confidence in teaching Mathematics:** Many respondents lacked confidence in teaching mathematics, largely due to their limited background in the subject. This gap led to feelings of insecurity and self-doubt, which can hinder effective instruction and impact student learning.

"I have no confidence because I don't know how to teach Math." Ivana

"From one to 20, I am 5." Dustin

Social Studies teachers often experience a lack of confidence in their ability to teach mathematics, primarily because it lies outside their area of specialization and they have not received adequate training. This discomfort can significantly impact their teaching effectiveness. For instance, one participant rated herself a 5 on a scale of 1 to 20, indicating a high level of struggle in teaching math.

These findings are consistent with Bandura's (1977) self-efficacy theory, which posits that individuals who doubt their capabilities are less likely to perform tasks effectively. In this context, teachers with low self-efficacy may feel overwhelmed and underprepared, which hinders their instructional delivery. Similarly, Tiwari et al. (2022) found that math anxiety among teachers often leads to a decline in instructional quality, ultimately affecting students' learning outcomes. These insights highlight the importance of targeted training and support to build both competence and confidence in teaching math across disciplines.

Table 2. Challenges Social Studies Teachers Face While Teaching the

**National Mathematics Program**

| **Significant Statements** | **Initial Code** | **Initial Theme** | **Categories** | **Emergent Themes** |
|---|---|---|---|---|
| "Actually, I had a hard time with this because I'm not a Math major, so how can I introduce Math in Social Studies? What I know is that our topics only involve Math when it comes to dates, like when something happened, so how can I apply that in teaching Math?" **Ivana** | Lack of Math Subject Matter Expertise/Difficulty Integrating Math | Lack of Math major, difficulty in introducing Math | Lack of Content Knowledge | **Difficulty in Teaching Mathematics Due to Lack of Subject Expertise** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

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|---|---|---|---|---|
| "I am more on fundamentals, so teaching higher Math is difficult for me." **Kira** | Difficulty with Advanced Math | Limited in fundamental Math skills, struggle with advanced topics | Limited Math Skills | |
| "Oh, I had an encounter with a certain student who asked me to do a certain word problem, and I didn't have any idea how to do it." **Berna** | Lack of Problem-Solving Ability (Math)/Knowledge Gap | Inability to solve Math problems, lack of problem-solving skills | Math Anxiety | |
| "Every time I go inside the classroom for my NMP subject, I am very, very not confident." **Joy** | Lack of Confidence | Low confidence in teaching Math | Low Confidence | |
| "The challenge I encountered when teaching Mathematics is suddenly having to solve a problem on the board without knowing beforehand what I need to solve." **Josh** | Lack of Preparation/Foreknowledge | Spontaneous problem-solving, lack of preparation | Difficulty in Problem-Solving | **Struggles with Spontaneous Problem-Solving and Student Queries** |
| "The most challenging part for me was when a student asked an advanced question that I didn't know how to answer because I hadn't studied that particular topic." | Difficulty with Advanced Student Questions | Inability to answer advanced questions, lack of familiarity with specific topics | Lack of Subject Knowledge | |
| "I don't know what to teach. I am not guided by the Math Department on what to do. My biggest challenge is teaching Math because I don't know what to | Lack of Curriculum Knowledge/Direction | Lack of guidance, absence of structured lesson plans | Lack of Support and Guidance | |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

| | | | | |
|---|---|---|---|---|
| teach." Ana | | | | |
| "Honestly, no. I haven't received any specific training in teaching Mathematics."**Mary** | Lack of Formal Math Teaching Training | No formal training, lack of preparation | No Formal Training | **No Formal Training or Preparation for Teaching Mathematics** |
| "We were just suddenly told to teach Math without training." **Ivana** | Sudden Assignment/Lack of Preparation | Sudden assignment to teach Math, no training | Sudden Assignment | |
| "No, I've just been doing self-study." **Kira** | Lack of Formal Training | Self-study as sole preparation | Self-study | |
| "We were not provided with materials or any orientation. The Math department head should have at least given us a scope and sequence of what we need to teach." **Shaine** | Lack of Materials and Orientation | Lack of materials, absence of orientation, no scope and sequence | Lack of Resources and Guidance | |
| "When my schedule is hectic, and I have to teach NMP on top of my usual Social Studies classes, it becomes exhausting." **Risa** | Increased Workload/Exhaustion | Overwhelming schedule, additional workload | Increased Workload | **Additional Workload Due to NMP Assignments** |
| "Oh, teaching Mathematics outside my major makes me more anxious." **Mona** | Anxiety Related to Out-of-Field Teaching (Mathematics) | Increased anxiety, emotional stress | Emotional Stress | |

The results from table 2 reveal the following challenges faced by Social Studies teachers while teaching the National Mathematics Program: Lack of Math major, difficulty in introducing Math, Limited in fundamental Math skills, struggle with advanced topics, Inability to solve Math problems, lack of problem-solving skills, Low confidence in teaching Math, Spontaneous problem-solving, lack of preparation, Inability to answer advanced questions, lack of familiarity with specific topics, Lack of guidance, absence of structured lesson plans, No formal training, lack of preparation, Sudden assignment to teach Math, no training, Self-study as sole preparation, Lack of materials, absence of orientation, no scope and sequence, Overwhelming schedule, additional workload, Increased anxiety, emotional stress.

These challenges are categorized under Lack of Content Knowledge, Limited Math Skills, Math Anxiety, Low Confidence, Difficulty in Problem-Solving, Lack of Subject Knowledge, Lack of Support and Guidance, No

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Formal Training, Sudden Assignment, Self-study, Lack of Resources and Guidance, Increased Workload and Emotional Stress.

While Emergent themes include Difficulty in Teaching Mathematics Due to Lack of Subject Expertise, Struggles with Spontaneous Problem-Solving and Student Queries, Lack of Support and Guidance, No Formal Training or Preparation for Teaching Mathematics, Additional Workload Due to NMP Assignments.

**Emergent Theme 1: Difficulty in Teaching Mathematics Due to Lack of Subject Expertise**

One of the most significant challenges Social Studies teachers reported was their lack of formal Mathematics training and content knowledge. Since they specialize in Social Studies, their exposure to Mathematics is limited, making it difficult for them to grasp and teach mathematical concepts effectively. Many teachers expressed discomfort with handling a subject that required problem-solving, computational skills, and logical reasoning, as these differ significantly from the analytical and discussion-based nature of Social Studies instruction.

For instance, Ivana explicitly stated their difficulty in teaching Mathematics: "Actually nahirapan ako dito kasi di naman ako major in Math, so how can I introduce Math in Araling Panlipunan? Ang alam ko lang is yung mga topics natin mayroong Math na tungkol sa date lang, kung kailan nangyari, so paano ko siya i-aapply sa pagtuturo ng Math?"

Kira also weighted their struggle with advanced Mathematical concepts:

"I am more on fundamentals, so teaching higher Math is difficult for me."

A lack of subject expertise in mathematics can significantly hinder effective teaching. These are the sentiments of Social Studies teachers who are teaching Mathematics under National Mathemtics Program . Due to lack of content knowledge, they experiencing anxiety and low confidence.The statements align with Paolucci (2021), who found that out-of-field teachers face instructional challenges when assigned subjects they have not been trained in. Similarly, Denbel (2023) underlined that Mathematics teaching requires deep content mastery, and teachers without formal training may struggle with conceptual clarity and content delivery.

**Emergent Theme 2: Struggles with Spontaneous Problem-Solving and Student Queries**

Many Social Studies teachers struggled with explaining Mathematics concepts in ways that students could easily understand. Unlike Social Studies, which relies on contextual learning, storytelling, and debates, Mathematics requires logical structuring and precise problem-solving.

Joy featured the difficulty of solving problems on the board without prior preparation:

"The challenge I encountered when teaching Mathematics is suddenly having to solve a problem on the board without knowing beforehand what I need to solve."

Similarly, Josh recounted a situation where they struggled to answer a student's question:

"The most challenging part for me was when a student asked an advanced question that I didn't know how to answer because I hadn't studied that particular topic."

Responding to student questions that go beyond textbook examples can be anxiety-inducing for teachers, especially those who may not feel fully confident in the subject matter. When students pose questions that require deeper conceptual understanding or creative problem-solving, teachers may feel unprepared—particularly if their academic background is in a different field. This challenge is compounded by gaps in their own subject knowledge and the absence of adequate support or resources, leaving them to navigate complex questions on their own. As a result, these situations can heighten stress and create a sense of vulnerability in the classroom.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

The statements align with Hatisaru (2023), who put stress on that effective Mathematics teaching requires the ability to explain problem-solving techniques clearly and logically. Teachers without a strong Mathematics background may struggle to provide step-by-step explanations, leading to student confusion and frustration. Podkhodova et al. (2020) also noted that out-of-field teachers who lack mathematical confidence tend to rely on surface-level instruction rather than deep conceptual teaching, which hinders students' ability to develop strong problem-solving skills.

**Emergent Theme 3: No Formal Training or Preparation for Teaching Mathematics**

Another major challenge faced by Social Studies teachers was the lack of formal training or preparation before being assigned to teach Mathematics. Many respondents reported that they were expected to teach Mathematics without any prior professional development, forcing them to rely on self-study or informal peer support.

Mary admitted that no training was provided:

"Honestly, no. I haven't received any specific training in teaching Mathematics."

Ivana echoed this, stating:

"We were just suddenly told to teach Math without training."

Similarly, Kira confirmed that self-study was their only option:

"No, I've just been doing self-study."

The absence of formal training or preparation for teaching Mathematics creates significant challenges for Social Studies teachers. Accorrding to them with no formal training, a sudden assignment to teach Mathematics encourage them into a cycle of self-study, compounded by a frustrating lack of resources and guidance.

The finding aligns with Du Plessis et al. (2019), who found that out-of-field teachers who do not receive formal training struggle with lesson delivery, student engagement, and instructional confidence. Without structured professional development, teachers are left to navigate unfamiliar subjects on their own, leading to ineffective teaching practices. Sánchez-Ibáñez et al. (2021) also pointed up that targeted professional support, such as training workshops and mentoring programs, is crucial in helping teachers transition into new subject areas.

**Emergent Theme 4: Additional Workload Due to NMP Assignments**

The sudden shift to teaching Mathematics also contributed to an increased workload for Social Studies teachers. Many found that they had to dedicate extra time to learning mathematical concepts, preparing lessons, and seeking external resources to ensure effective instruction.

Risa described how the additional teaching load became overwhelming:

"When my schedule is hectic, and I have to teach NMP on top of my usual Social Studies classes, it becomes exhausting."

Mona further foregrounded the emotional toll of teaching Mathematics outside their field:

"Oh, teaching Mathematics outside my major makes me more anxious."

Social Studies teachers must dedicate substantial time to learning and relearning the Mathematical concepts they're expected to teach. In result Social Studies teachers requires time and effort outside of regular teaching hours. And they are experiencing emotional stress, making it difficult to maintain a healthy work-life balance."

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

It aligns with Hobbs and Porsch (2021), who found that out-of-field teachers experience heightened stress and burnout due to the additional workload of preparing for an unfamiliar subject. Without proper support and workload adjustments, teachers may experience professional strain, which can impact their overall teaching effectiveness.

This finding supports Tiwari et al. (2022), who noted that teachers who are uncomfortable with Mathematics often experience high levels of anxiety, which can be transferred to students and negatively affect their learning.

Table 3. Coping Mechanisms Employed by Social Studies Teachers to

**Address the Challenges in Teaching the National Mathematics**

**Program (NMP)**

| **Significant Statements** | **Initial Code** | **Initial Theme** | **Categories** | **Emergent Themes** |
|---|---|---|---|---|
| "For me, I support my teaching by collaborating with my colleagues. You really have to ask the Math teachers." **Mary** | Collaboration as Support Strategy | Seeking guidance, collaboration with Math teachers | Collaboration with Subject Experts | **Consulting Mathematics Teachers for Guidance** |
| "Of course, I ask for help from my colleagues, especially those who are actually majoring in Mathematics. I ask them how they approach and the strategies they use in teaching that kind of subject." **Josh** | Seeking Help from Math-Specialized Colleagues | Seeking help from Math majors, learning teaching strategies | Seeking Expert Advice | |
| "For me to enhance my Mathematics instruction, I sought support through professional development, seeking feedback from my students, and asking for help from my colleagues, especially those who are Math | Seeking Colleague Support (Math Majors) | Peer discussions, informal learning, collaboration | Peer Support and Learning | **Peer Discussions and Informal Learning** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

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|---|---|---|---|---|
| majors." **Risa** | | | | |
| "No, I've just been doing self-study"Kira | | Independent learning, self-study | Self-directed Learning | **Independent Learning to Bridge Knowledge Gaps** |
| "Since we are Araling Panlipunan teachers, we need to do research first before teaching NMP. So, we really need to put in the effort." **Mika** | Reliance on Self-Directed Learning/Effort Due to Lack of Formal Support | Research, independent effort to prepare | Independent Research | |
| "So far, it's quite difficult because I need to do research. I find myself mingling with Math teachers to ask for points, strategies, and procedures on what should be taught to the students." **Ivana** | Seeking Help from Math Teachers | Research, collaboration with Math teachers | Self-directed Learning and Collaboration | **Utilizing Online Resources and External References** |
| "I prepared certain topics and asked my colleagues who are teaching Mathematics on how to do it. I let my topics roam around the topic alone—no more discussion, no extra topics—just that topic alone." **Mona** | Topic Focus | Preparation through collaboration, focused teaching | Research and Focused Preparation | |
| "For me, to address the challenges in teaching Mathematics, I developed strategies such as breaking down | Emphasis on Step-by-Step Process | Breaking down complex concepts, step-by-step approach | Simplification of Concepts | **Breaking Down Complex Mathematical Concepts** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

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| complex concepts. Ganon talaga sa Math—from complex to simple. Step-by-step process explanation and approach talaga."**Mary** | | | | |
| "For me, we need to start from the very basics because students have different learning styles, so we should begin with the fundamentals." **Josh** | Basic Fundamentals | Starting with basics, adjusting for different learning styles | Tailored Instruction | |
| "For me, the most effective strategies in Mathematics involve problem-solving and critical thinking activities. I make the students engage in group work and interactive tasks to make learning more engaging".Dustin | **Use of Group Work and Interactive Tasks:** | Problem-solving, group work, interactive tasks | Hands-on Activities | **Incorporating Hands-On Activities and Visual Aids** |
| "To address the challenges in teaching Mathematics, I've developed strategies like the use of visuals and manipulatives. I also use interactive learning and formative assessments like quizzes and problem-solving drills."Risa | Math Teaching Strategies | Use of visuals, manipulatives, interactive learning, formative assessments | Visual Aids and Interactive Learning | |
| "I stay motivated by focusing on the progress of my | Student Progress Motivation | Student progress, motivation from student | Student Progress as Motivation | **Staying Motivated Through Student Progress** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

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| students. When you see the progress of the children, it makes you happy as a teacher, and it inspires you to teach them more."Mary | | improvement | | |
| "I always try to focus on the small victories of the children. When they finally get the correct answer, it motivates me again."**Berna** | Small Victories | Focusing on small victories, motivation from student success | Small Victories as Motivation | |
| "We can't do anything about it, hahaha. So I think, for the needs of the students, we have to maintain our confidence so they will become more interested in Math." **Ivana** | Maintaining Confidence | Humor, maintaining confidence, peer support | Humor and Peer Support | **Managing Stress Through Peer Support and Humor** |
| "I don't love Math. I am not a Math teacher, so I don't have any coping mechanisms. I wish they would just return it to the Math teachers!" **Ana** | Math Dislike | Frustration, lack of coping mechanisms | Frustration and Lack of Coping Mechanisms | |

The coping mechanisms revealed in table 3 as employed by Social Studies teachers in teaching the National Mathematics Program (NMP) reflect a wide range of strategies. There were initial codes identified, including *seeking guidance, collaboration with Math teachers, seeking help from Math majors, learning teaching strategies, peer discussions, informal learning, collaboration, independent learning, self-study*, and *research, independent effort to prepare*. These strategies were categorized under *Collaboration with Subject Experts*, *Seeking Expert Advice*, *Peer Support and Learning*, *Self-directed Learning*, and *Independent Research*. The emergent themes for these categories included *Consulting Mathematics Teachers for Guidance*, *Seeking Expert Advice*, *Peer Discussions and Informal Learning*, *Independent Learning to Bridge Knowledge Gaps*, and *Utilizing Online Resources and External References*.

Additionally, teachers focused on *preparation through collaboration, focused teaching*, which led to the category *Research and Focused Preparation*. Some teachers used methods like *breaking down complex concepts, step-by-step approach* and *starting with basics, adjusting for different learning styles*, categorized under *Simplification of Concepts* and *Tailored Instruction*. The use of *problem-solving, group work,*

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

*interactive tasks* and *visuals, manipulatives, interactive learning, formative assessments* was grouped under *Hands-on Activities* and *Visual Aids and Interactive Learning*. Teachers were motivated by *student progress, motivation from student improvement*, and *focusing on small victories, motivation from student success*, categorized under *Student Progress as Motivation* and *Small Victories as Motivation*. Lastly, some teachers managed stress with *humor, maintaining confidence, peer support*, while others expressed *frustration, lack of coping mechanisms*, highlighting the challenges of teaching Math outside their area of expertise. These strategies were classified under *Humor and Peer Support* and *Frustration and Lack of Coping Mechanisms*.

**Emergent Theme 1: Consulting Mathematics Teachers for Guidance**

Given their lack of expertise in Mathematics, many Social Studies teachers sought help from their colleagues who specialized in the subject. They consulted Math teachers to better understand lesson content, problem-solving techniques, and effective instructional strategies.

Mary laid stressed on the importance of seeking guidance from Math teachers:

"For me, I support my teaching by collaborating with my colleagues. Magtanong ka talaga sa mga Math teachers."

Similarly,Josh shared how they relied on expert advice:

"Syempre, mag-ask ako ng help sa mga kasama ko, especially doon sa major in Mathematics talaga. Paano ko, paano yung process at strategies na ginagamit nila sa pagtuturo ng ganyang klaseng subject."

Consulting mathematics teachers for guidance is an essential step in ensuring students receive the support they need to improve their understanding and confidence in the subject. And Social studies teachers said Working with subject experts means learning directly from professionals who have deep knowledge and experience in their field. Whether you're a student, teacher, researcher, or professional, collaborating with experts helps you gain valuable insights, clear up complex topics, and improve problem-solving skills. These specialists bring real-world experience and practical advice, making learning more engaging and meaningful. Instead of just relying on textbooks or general information, connecting with experts allows for deeper understanding and a more well-rounded perspective. This aligns with Carvalho-Filho et al. (2020), who brought attention to that collaboration among educators, particularly between specialists and out-of-field teachers, enhances instructional effectiveness. When teachers receive mentorship from subject experts, they gain a deeper understanding of how to effectively teach unfamiliar content.

**Emergent Theme 2: Peer Discussions and Informal Learning**

Beyond consulting Math teachers, some respondents engaged in peer discussions with fellow Social Studies teachers who were also assigned to the NMP. These informal learning sessions allowed them to share insights, experiences, and strategies to improve their teaching.

Risa described how seeking help from colleagues was a key coping mechanism:

"For me to enhance my Mathematics instruction, I sought support through professional development, seeking feedback from my students, and asking for help from my colleagues, especially those who are Math majors."

Learning becomes more meaningful when we reach out to both experts and peers for guidance. Seeking expert advice gives us access to professionals who have deep knowledge and real-world experience, helping us better understand complex topics and make informed decisions. They provide clarity, practical examples, and reliable information that strengthen our learning.

At the same time, peer support and learning allow us to grow together by sharing ideas, solving problems, and learning from each other's experiences. Working with peers builds confidence, encourages teamwork, and brings different perspectives into the learning process, making it more engaging and enjoyable. By combining expert insights with collaborative learning, we gain a well-rounded and deeper understanding of any subject.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

According to Social Studies teachers conversation and interactions with mathematics teachers improves their understanding about in some mathematical concepts. The finding is consistent with Sánchez-Ibáñez et al. (2021), who noted that professional learning communities provide out-of-field teachers with opportunities to refine their teaching approaches through shared experiences

**Emergent Theme 3: Independent Learning to Bridge Knowledge Gaps**

Without formal Mathematics training, many teachers relied on self-study as a coping mechanism. They conducted independent research, reviewed online materials, and studied textbooks to strengthen their understanding of mathematical concepts.

Kira brought out the necessity of self-learning:

"No, I've just been doing self-study."

Mika also spotlighted the need for independent research:

"Since we are Araling Panlipunan teachers, we need to do research first before teaching NMP. So, we really need to put in the effort."

Independent learning is all about taking charge of your own education—exploring new ideas, practicing skills, and finding the information you need beyond the classroom. It helps teachers strengthen their understanding, especially in areas where they might feel unsure or need extra clarity. By learning at their own pace and seeking out resources that work best for them, individuals can build confidence, fill in knowledge gaps, and continue growing in their skills and expertise. It aligns with Prenger et al. (2019), who found that self-directed learning is a common strategy among teachers assigned to subjects outside their specialization. However, without structured professional development, self-study may not always be effective in improving teaching confidence and instructional quality.

**Emergent Theme 4: Utilizing Online Resources and External References**

Some teachers actively searched for online resources, lesson plans, and video tutorials to enhance their understanding of Mathematics topics.

Mary says "Since we are Araling Panlipunan teachers, we need to do research first before teaching NMP. So, we really need to put in the effort."

Ivana explained:

"So far, it's quite difficult because I need to do research. I find myself mingling with Math teachers to ask for points, strategies, and procedures on what should be taught to the students."

Similarly, Mona mentioned their efforts to look for additional resources:

"I prepared certain topics and asked my colleagues who are teaching Mathematics on how to do it. I let my topics roam around the topic alone—no more discussion, no extra topics—just that topic alone."

Using online resources and external references opens up a world of knowledge for both students and teachers. It makes learning more exciting, interactive, and relevant by providing fresh insights, real-world examples, and up-to-date information. Instead of relying solely on textbooks, learners can explore videos, articles, research papers, and interactive tools that bring subjects to life. This not only keeps education engaging but also helps students develop critical thinking skills and a deeper understanding of the world around them. This strategy aligns with Tiwari et al. (2022), who found that out-of-field teachers often depend on digital resources to supplement their teaching knowledge. However, without proper training, the risk of misinterpreting complex concepts remains a challenge.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Emergent Theme 5: Breaking Down Complex Mathematical Concepts**

Since Mathematics requires a different approach from Social Studies, many teachers adjusted their teaching methods by simplifying difficult topics into smaller, more understandable steps.

Mary shared their approach to making Math lessons more accessible:

"For me, to address the challenges in teaching Mathematics, I developed strategies such as breaking down complex concepts. Ganon talaga sa Math—from complex to simple. Step-by-step process explanation and approach talaga."

Josh also pointed up the importance of adjusting instruction based on student needs:

"For me, we need to start from the very basics because students have different learning styles, so we should begin with the fundamentals."

Simplification of concepts refers to the process of breaking down difficult or abstract ideas into smaller, more understandable parts. By presenting information in a clear, structured, and engaging way, educators can help students grasp key concepts more easily .Research shows that Social Studies teachers need to learn how to teach complicated mathematical ideas more understandable, using step by step process of explanation.

It aligns with Podkhodova et al. (2020), who focused attention on that non-specialist teachers can improve instruction by using step-by-step explanations and practical applications to simplify abstract concepts.

**Emergent Theme 6: Incorporating Hands-On Activities and Visual Aids**

Recognizing that students often struggle with abstract mathematical concepts, some teachers used hands-on activities and visual aids to enhance engagement and understanding.

Dustin described the use of activity-based learning:

"For me, the most effective strategies in Mathematics involve problem-solving and critical thinking activities. I make the students engage in group work and interactive tasks to make learning more engaging."

Risa also noted the benefits of using visuals and manipulatives:

"To address the challenges in teaching Mathematics, I've developed strategies like the use of visuals and manipulatives. I also use interactive learning and formative assessments like quizzes and problem-solving drills."

Research shows the value of hands on activities and visual aids in teaching Mathematics. Social Studies teachers describe hands on activities as the most effective strategy. Students learn best when they're actively involved in the process. Sitting through lectures and taking notes can only do so much, but hands-on activities, visual aids, and interactive learning make lessons come alive. When students get to experiment, build, solve puzzles, or role-play, they're not just memorizing facts they're thinking critically, solving problems, and getting creative. Physically engaging with the material helps them understand concepts on a deeper level and makes learning more enjoyable and memorable.

At the same time, visual aids like diagrams, charts, videos, and infographics help simplify complex ideas, making them easier to grasp. When students can see information laid out clearly, it helps them connect the dots and retain what they've learned. By combining hands-on activities with visual and interactive elements, learning becomes an experience—not just something to sit through, but something to truly engage with and enjoy.

This aligns with Hobbs and Porsch (2021), who found that interactive learning techniques improve student engagement and comprehension, particularly in Mathematics.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

**Emergent Theme 7: Staying Motivated Through Student Progress**

Despite their difficulties, some teachers found motivation in their students' improvements. Seeing students grasp concepts and successfully solve problems encouraged them to continue their efforts.

Mary accentuated how student progress motivated them:

"I stay motivated by focusing on the progress of my students. Pag makita mo yung progress ng mga bata, happy ka na ikaw na teacher, at inspired ka na magturo sa kanila."

Berna echoed a similar sentiment:

"I always try to focus on small victories ng mga bata. When they finally get the correct answer, it motivates me again."

Teaching is full of highs and lows, but one of the greatest joys for any teacher is seeing their students progress. There's nothing more rewarding than seeing a student finally have that "aha" moment—whether it's a struggling reader finishing a book on their own, a quiet student finding the courage to speak up in class, or a group of kids suddenly grasping a concept that once felt impossible. These moments, big or small, are what make all the hard work, patience, and dedication worthwhile. They remind teachers why they do what they do—because every bit of progress matters.

This aligns with Tiwari et al. (2022), who found that teachers who focus on student growth and achievements experience greater job satisfaction and motivation.

**Emergent Theme 8: Managing Stress Through Peer Support and Humor**

Some teachers relied on humor and camaraderie with colleagues to cope with the emotional stress of teaching Mathematics.

Ivana admitted that they tried to stay positive despite their struggles:

"Wala tayong magawa eh hahaha. So I think for the needs of the students, we have to maintain our confidence para mas lalo silang magkaroon ng interest sa Math."

Ana, however, expressed frustration and a desire to have the subject reassigned to Math teachers:

"I don't love Math. I am not a Math teacher, so I don't have any coping mechanisms. Sana ibalik na lang sa Math teachers!

Teaching math as a social studies major can be especially challenging, but despite the stress, our role as educators allows us to foster a positive and supportive learning environment.

Humor has long been acknowledge as a powerful tool for dealing with stress. It radiantes the mood, helps people bond, and provides a fresh perspective on difficult situations. A workplace or educational setting where humor is welcomed tends to be more positive and resilient When people can laugh together, they often find it easier to handle setbacks and move forward without being overwhelmed.

Peer support plays a similar role. When individuals know they have colleagues, friends, or teammates who understand their struggles and offer encouragement, it creates a sense of belonging. Supportive relationships help people feel valued and less isolated, making it easier to navigate challenges. Whether it's teachers sharing stories of classroom mishaps or coworkers venting about a tough project, the presence of understanding peers fosters resilience and motivation.

It aligns with Sánchez-Ibáñez et al. (2021), who found that teachers facing challenging teaching conditions often rely on peer support and humor to manage stress and maintain motivation.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Table 4. General Acceptability of the Developed Intervention Program

| **Significant Statement** | **Initial Code** | **Initial Theme** | **Categories** | **Emergent Themes** |
|---|---|---|---|---|
| "I believe a training program will be beneficial and acceptable for teachers like myself. It would provide us with the tools to gain confidence in teaching Mathematics, especially since this is not our primary field." Mary | Training Program Desire | Training program needed for out-of-field teachers, need for confidence-building | Need for structured training, confidence in teaching Math | **High Perceived Need for Training** |
| "Oh, they should have seminars and training on specific topics that are relevant and needed to improve the numeracy skills of both the students and the teachers." Mona | Numeracy Skills Improvement Training | Demand for targeted training and seminars | Need for specialized, targeted seminars and workshops | |
| "I think the training should focus on specialized Mathematics pedagogy, subject knowledge, and ongoing professional development. We need insights into pedagogical practices to help us teach Mathematics properly." Berna | Specialized Math Pedagogy | Need for specialized Mathematics pedagogy, subject knowledge, and professional development | Training should focus on pedagogy and content knowledge | **Preference for a Comprehensive and Well-Structured Training Program** |
| "We need exposure to training and seminars about the basic lessons in Mathematics so that we, as Social Studies teachers, won't struggle as | Basic Math Lessons Training | Need for foundational Math content training and gradual learning | Training should cover basic and progressive lessons in Math | |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

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| much in teaching Math." Ivana | | | | |
| "I think foundational Math concepts should be covered first to ensure that teachers understand the subject thoroughly before explaining it to students." Mary | Foundational Math Concepts | Need for foundational Math concepts, understanding the subject | Inclusion of Mathematics Content Knowledge | **Key Training Components Suggested by Teachers** |
| "Oh, it should focus on the basics of Mathematics, like the four fundamental operations and how to comprehend a word problem." Mona | Basics of Mathematics | Focus on basic Math skills, importance of fundamental operations | Inclusion of Mathematics Content Knowledge | |
| "We need training that focuses not just on content knowledge but also on differentiated teaching strategies, assessment methods, and classroom management techniques specific to Mathematics." Berna | Math-Specific Training | Need for teaching strategies, differentiated instruction, and classroom management | Focus on Teaching Strategies and Classroom Management | |
| "I think training should introduce different strategies for teaching Mathematics, especially for teachers who are not Mathematics majors, to make learning more effective for students." Dustin | Math Teaching Strategies | Introduction of alternative teaching strategies, effective learning approaches | Focus on Teaching Strategies and Classroom Management | |
| "Technology training should also be included so that we can use digital resources to | Technology Training | Need for technology integration, use of digital resources in | Need for Hands-On and Technology-Integrated | |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

| | | | | |
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| enhance our instruction and make learning more engaging for students." Mary | | teaching | Training | |
| "Based on my experience, I believe a training program will be beneficial and acceptable for teachers like me because it would address the specific challenges faced by out-of-field teachers." Risa | Training Program | Need for targeted training, addressing challenges faced by out-of-field teachers | Confidence Boost and Increased Teaching Competency | **Acceptability of the Training Design Based on Anticipated Benefits** |
| "Yes, training is important because, as they say, 'You cannot give what you do not have.' If I don't understand the topic, how can I teach it properly?" Ana | Training Importance | Importance of teacher preparation, understanding content first | Confidence Boost and Increased Teaching Competency | |
| "Yes, the training is beneficial, but I am not confident about imparting that knowledge to my students. I still need more preparation." Shaine | Lack of Confidence | Lack of confidence in imparting knowledge, need for more preparation | Expected Improvement in Student Learning Outcomes | |
| "Yes, training would help us become more productive in teaching NMP, and the administra vvvvvvvvvvvvb tion should conduct a series of seminars to enhance student learning." Mika | Training Benefit | Belief in training's impact on student learning, need for ongoing seminars | Expected Improvement in Student Learning Outcomes | |
| "The school should offer professional development programs, | Professional Development | Need for institutional support, workshops, | Call for Administrative Support in Training | **Need for Institutional Support and Program** |

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

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|---|---|---|---|---|
| workshops, and mentoring sessions to help us transition smoothly into teaching Mathematics." Mary | | and mentoring | Implementation | **Sustainability** |
| "Maybe they need to provide us with more training sessions to help us improve our skills in Mathematics." Kira | Training Sessions | Need for more ongoing training sessions, skill improvement | Call for Administrative Support in Training Implementation | |
| "Do not create programs that will be a burden on both the students and teachers. Do not also create half-baked programs that have no continuity at all." Mona | Program Burden | Need for continuity in training, concern about incomplete programs | Ensuring Continuity and Follow-Up Training | |

Table 4 presents the general acceptability of the developed intervention program, and it was assessed through various significant statements, reflecting the teachers' perspectives on training programs to address challenges in teaching Mathematics. There were initial codes identified: training program needed for out-of-field teachers, need for confidence-building, demand for targeted training and seminars, need for specialized Mathematics pedagogy, subject knowledge, and professional development, need for foundational Math content training and gradual learning, *and* focus on basic Math skills, importance of fundamental operations. *These initial codes were categorized under* High Perceived Need for Training, Need for Specialized, Targeted Seminars and Workshops, Preference for a Comprehensive and Well-Structured Training Program, *and* Inclusion of Mathematics Content Knowledge, *with the emergent themes being* High Perceived Need for Training, Preference for a Comprehensive and Well-Structured Training Program, *and* Key Training Components Suggested by Teachers.

Further, there was emphasis on focus on teaching strategies and classroom management, *categorized under* Focus on Teaching Strategies and Classroom Management, *which led to the emergent theme of* Focus on Teaching Strategies and Classroom Management. *Teachers also expressed a need for* technology integration, use of digital resources in teaching, *categorized as* Need for Hands-On and Technology-Integrated Training, *with the emergent theme* Need for Hands-On and Technology-Integrated Training.

Regarding the impact of the training, teachers highlighted *confidence boost and increased teaching competency*, categorized under *Confidence Boost and Increased Teaching Competency*, and the theme *Acceptability of the Training Design Based on Anticipated Benefits*. Teachers believed training would also lead to *expected improvement in student learning outcomes*, which was categorized under *Expected Improvement in Student Learning Outcomes*.

Finally, there were calls for *institutional support, workshops, and mentoring*, which were categorized under *Need for Institutional Support and Program Sustainability*, with the emergent theme of *Call for Administrative Support in Training Implementation*. Concerns about the continuity of training were raised, which was

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

categorized under *Ensuring Continuity and Follow-Up Training* and the emergent theme *Ensuring Continuity and Follow-Up Training*.

**Emergent Theme 1: High Perceived Need for Training**

Respondents overwhelmingly expressed the need for structured training to enhance their ability to teach Mathematics effectively under the NMP. Many teachers recognized that their lack of formal training in Mathematics posed significant instructional challenges, making professional development essential for improving their teaching competencies.

Mary made a point of the importance of training tailored to their specific needs:

"I believe a training program will be beneficial and acceptable for teachers like myself. It would provide us with the tools to gain confidence in teaching Mathematics, especially since this is not our primary field."

Similarly,Mona stressed the importance of targeted seminars and workshops:

"Oh, they should have seminars and training on specific topics that are relevant and needed to improve the numeracy skills of both the students and the teachers."

Even a person who is already possesses the necessary skills still needs a training in order to improve. Social Studies teachers suggested to have a training or seminars especially in the strategy they need in teaching Mathematics. That can help them to grow and more confident in teaching Mathmatics. They give emphasis on the tools to gain confidence in teaching Mathematics, especially since this is not their primary field.

This aligns with Sánchez-Ibáñez et al. (2021), who found that targeted professional development significantly improves out-of-field teachers' confidence and effectiveness in delivering subject-specific instruction.

**Emergent Theme 2: Preference for a Comprehensive and Well-Structured Training Program**

Teachers indicated that the training program should be well-organized, covering essential Mathematics content and effective pedagogical strategies.

Berna brought to the fore the need for back-to-basics training:

"I think the training should focus on specialized Mathematics pedagogy, subject knowledge, and ongoing professional development. We need insights into pedagogical practices to help us teach Mathematics properly."

Ivana reinforced the idea that Mathematics training should be gradual and progressive:

"We need exposure to training and seminars about the basic lessons in Mathematics so that we, as Social Studies teachers, won't struggle as much in teaching Math."

A comprehensive and well- structured training program is essential for effective learning and skill development. Research shows that Social Studies teachers are need to have a training focus on the needs of the teachers. Like basic lessons in math and most of all on the pedagogy that can lessen the burden of the Social studies teachers.

This perspective aligns with Paolucci (2021), who argued that effective training programs for out-of-field teachers must include foundational content knowledge, instructional strategies, and progressive learning structures.

**Emergent Theme 3: Key Training Components Suggested by Teachers**

Many respondents suggested that the training program should include sessions on fundamental Mathematics concepts to ensure that teachers fully understand the subject matter before teaching it.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Mary outlined the core areas needed in the training:

"I think foundational Math concepts should be covered first to ensure that teachers understand the subject thoroughly before explaining it to students."

Mona agreed, emphasizing the basics:

"Oh, it should focus on the basics of Mathematics, like the four fundamental operations and how to comprehend a word problem."

Social studies teachers suggested that if there will be a training, determine the needs of the teachers. Like focus on basic fundamental math. So that it will be easier for them to discuss the lesson. A pedagogy that can help teachers to enhance their strategy in discussion..

This aligns with Denbel (2023), who called attention to that training programs for out-of-field Mathematics teachers must begin with content mastery to improve instructional quality.

**Emergent Theme 4: Acceptability of the Training Design Based on Anticipated Benefits**

Respondents expressed that the training program would help them gain confidence in teaching Mathematics, ultimately improving their ability to deliver lessons effectively.

Risa stated how the training would help teachers like them:

"Based on my experience, I believe a training program will be beneficial and acceptable for teachers like me because it would address the specific challenges faced by out-of-field teachers."

Ana reinforced the need for proper preparation:

"Yes, training is important because, as they say, 'You cannot give what you do not have.' If I don't understand the topic, how can I teach it properly?"

The training design's acceptability hinges on the clear articulation and perceived value of its anticipated benefits for participants. It helps to boost confidence. Social studies teachers says to have training they will gain new skills, knowledge and strategies that will make them more effective with the aid of proper training design that will surely boost their confidence and knowledge. A confident teacher creates a positive and supportive classroom environment where students feel safe to take risks, ask questions, and participate actively.

This supports Tiwari et al. (2022), who found that professional development programs improve teachers' confidence levels and instructional effectiveness, especially when they lack subject expertise.

**Emergent Theme 5: Need for Institutional Support and Program Sustainability**

Call for Administrative Support in Training Implementation

Respondents stressed the need for continued institutional backing to ensure the success of the training program.

Mary weighted the role of administrative support:

"The school should offer professional development programs, workshops, and mentoring sessions to help us transition smoothly into teaching Mathematics."

Kira also put stress on the need for ongoing training:

"Maybe they need to provide us with more training sessions to help us improve our skills in Mathematics."

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Ensuring Continuity and Follow-Up Training

Some teachers expressed concern that training should not be a one-time event but rather an ongoing process with follow-up sessions to ensure continuous improvement.

Mona strongly suggested program continuity:

"Do not create programs that will be a burden on both the students and teachers. Do not also create half-baked programs that have no continuity at all."

Research suggests that it is a call to the Department of Education that there is a need to provide trainings to the teachers especially to those who are not in the field of Mathematics subject. Gathering feedbacks from participants to identify key areas for improvement means providing comprehensive training that not only builds teachers' confidence but also improves student performance, as it allows teachers to address learning gaps effectively. To ensure that training will align with goals and policies of the Department of Education, incorporating on-going support by means of professional learning communities, educators can cooperate, share techniques and learning from one another, that will promote a culture of continuous improvement. This aligns with Carvalho-Filho et al. (2020), who found that sustained school support and professional learning communities significantly improve the effectiveness of out-of-field teacher training programs.

Learning doesn't stop after just one training session—it's an ongoing journey. Teachers need continuous support, not just a single workshop. That means checking in regularly, providing extra resources, and offering follow-up sessions to keep them confident and up to date with new teaching strategies. When teachers have the opportunity to keep learning and growing, they can adapt to new challenges and provide the best possible education for their students. Hobbs and Porsch (2021), who emphasized that one-time workshops are insufficient for sustained improvement and that ongoing professional development is crucial for long-term effectiveness.

## SUMMARY, CONCLUSION, AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions, and recommendations based on the results of the study. The study explored the competency skills, challenges, and coping mechanisms of Social Studies teachers assigned to teach Mathematics under the National Mathematics Program (NMP). Furthermore, it assessed the general acceptability of a proposed training design as an intervention to support these teachers in overcoming instructional difficulties. The findings provide insights into the experiences of out-of-field teachers and serve as the basis for proposed professional development initiatives aimed at enhancing their effectiveness in Mathematics instruction.

### Summary of Findings

This study examined the competency skills, challenges, and coping mechanisms of Social Studies teachers assigned to teach Mathematics under the National Mathematics Program (NMP). The findings focus attention on the teachers' struggles, adaptive strategies, and the acceptability of a professional training program to address their challenges.

**Competency Skills of Social Studies Teachers in Teaching NMP.** Social Studies teachers generally lack of formal training in Mathematics, making their transition to teaching under the NMP particularly challenging. While they possess strong pedagogical expertise in Social Studies, these skills do not effectively translate into Mathematics instruction, which requires logical reasoning, problem-solving, and structured computations. Many teachers expressed feeling unprepared due to their limited content knowledge, with some relying solely on basic arithmetic skills. The abrupt reassignment without prior orientation or training resulted in low confidence, difficulties in explaining concepts, and a lack of proper instructional strategies.

**Challenges Faced by Social Studies Teachers in Teaching Mathematics.** A significant challenge among teachers was their lack of subject mastery, which led to difficulties in content delivery and problem-solving.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

Many found it difficult to explain mathematical concepts clearly, especially when responding to student queries on unfamiliar topics. Anxiety and self-doubt further impacted their teaching effectiveness, with some teachers reporting that their discomfort with Mathematics made them hesitant in front of their students. The absence of structured lesson plans and instructional materials from the Mathematics department also hindered lesson preparation, leaving teachers uncertain about what topics to prioritize. Additionally, the increased workload of balancing their usual Social Studies classes with Mathematics assignments contributed to heightened stress and emotional strain.

**Coping Mechanisms Employed by Social Studies Teachers.** To address these challenges, teachers sought guidance from Mathematics teachers and actively collaborated with their colleagues to enhance their understanding of lesson content. Many engaged in self-study by reviewing textbooks, exploring online resources, and participating in informal peer discussions to strengthen their Mathematical skills. To make lessons more manageable, they adjusted their teaching strategies by breaking down complex concepts into simpler steps, incorporating hands-on activities, and using visual aids to facilitate student understanding. Teachers also found motivation in their students' progress, using their achievements as a source of encouragement to persist in teaching Mathematics. Some relied on humor and peer support as coping mechanisms to alleviate stress and maintain a positive classroom environment. Despite these efforts, many teachers still struggled due to the lack of structured professional development and subject-specific training.

**General Acceptability of the Developed Training Design.** Teachers expressed strong support for a structured training program that would enhance their competency in Mathematics instruction. They foregrounded the need for a well-organized professional development initiative that focuses on fundamental Mathematics concepts, effective pedagogical strategies, and classroom management techniques tailored to Mathematics instruction. Many respondents also suggested integrating digital tools and interactive learning strategies to improve lesson delivery and student engagement. Teachers believed that participating in such training would boost their confidence, making them more effective in handling Mathematics classes and improving student learning outcomes. However, they also stressed the importance of continuous administrative support and follow-up training sessions to ensure the program’s long-term sustainability.

## CONCLUSION

Based on the findings of this study, the following conclusions are drawn, aligned with the research questions:

Social Studies teachers assigned to teach Mathematics under the NMP generally lack the necessary subject mastery and formal training required for effective instruction. As a result, their confidence levels in teaching Mathematics remain low, further affecting their ability to deliver effective lessons. Through reflecting on the role of Social Studies teachers handling Mathematics, I have come to realize the importance of subject-specific training and mastery in delivering quality education. While many Social Studies teachers demonstrate strong pedagogical skills, teaching Mathematics requires not just general teaching ability but also a deep understanding of mathematical concepts, logic, and problem-solving techniques. This realization has highlighted the need for continuous professional development, cross-disciplinary training, and support systems to ensure that all teachers can teach regardless of their specializationcan can confidently and effectively teach across subjects when needed.

The most significant challenge faced by Social Studies teachers in teaching Mathematics is their lack of content knowledge and confidence, leading to difficulties in explaining mathematical concepts clearly and responding to student inquiries. Many teachers experience math anxiety, which impacts their instructional effectiveness and contributes to classroom stress. The absence of structured lesson plans, instructional materials, and support from the Mathematics department further exacerbates these challenges. Additionally, the increased workload of balancing Social Studies and Mathematics classes adds to their professional strain, making it difficult for them to manage their teaching responsibilities effectively.

To address these challenges, Social Studies teachers have adopted various coping strategies, including seeking guidance from Mathematics teachers, engaging in self-study, and collaborating with peers for lesson planning and instructional support. Many have also adjusted their teaching methods by simplifying complex

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue V May 2025

mathematical concepts, incorporating hands-on activities, and using visual aids to enhance student understanding. Despite these efforts, many teachers continue to struggle due to the lack of structured training and professional support. Teachers also rely on student progress as motivation and seek peer support to manage the emotional stress associated with teaching Mathematics.

The developed training program is widely accepted by Social Studies teachers as a necessary intervention to bridge their competency gaps in Mathematics instruction. Teachers strongly support the need for structured and well-organized training that includes foundational Mathematics concepts, effective pedagogical strategies, and classroom management techniques tailored for Mathematics instruction. To guarantee lasting improvements in teaching and student learning, teachers emphasize the critical role of ongoing professional development and administrative support."

## RECOMMENDATIONS

Based on the conclusions of this study, the following recommendations are proposed to address the competency gaps, challenges, coping mechanisms, and training needs of Social Studies teachers assigned to teach Mathematics under the National Mathematics Program (NMP):

The Department of Education (DepEd) and school administrators may design and implement training programs that focus on strengthening the foundational Mathematics knowledge, problem-solving skills, and effective instructional strategies of Social Studies teachers assigned to teach Mathematics.

To support Social Studies teachers in overcoming their instructional difficulties, schools may provide structured lesson plans, teaching guides, and access to Mathematics-related resources.

Schools may promote collaborative learning among teachers by encouraging interdisciplinary partnerships between Social Studies and Mathematics teachers. .

The school may develop institutionalized training program based on teacher feedback and evolving educational needs. Additionally, DepEd may allocate resources and funding to ensure the continuous support and execution of these professional development initiatives.

The school may not allow social studies teachers to teach math, as each subject requires specialized knowledge and training to ensure students receive the highest quality education

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