

Mathematics Teachers' Reflections on the National Learning Camp Implementation: An Exploratory Case Study

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ABSTRACT

This study explored the reflections of five mathematics teachers who taught during the pilot implementation of the Philippine Department of Education's National Learning Camp (NLC) in 2023. Reflection was defined as the teachers' interpretation of their teaching experiences, practices, and observations during the camp. An exploratory case study design was employed, with an embedded quantitative component. Five purposively selected mathematics teachers participated in semi-structured interviews and classroom observations, and completed a six-item questionnaire on their perceptions of learners' participation. Learners' scores on a 30-item achievement test administered before and after the camp were also analyzed. Interview transcripts were examined through thematic content analysis. Findings revealed that although the teachers differed in their preparations, strategies, and self-assessed strengths, their reflections converged on a shared commitment to the program's goals. Four major challenges emerged: inadequate preparation and resources, insufficient time, limited self-confidence and self-efficacy among novice volunteers, and unfavorable learner behavior. Teachers proposed concrete solutions for future implementation cycles. Learners' achievement scores improved significantly after the camp, $t(15) = 10.57$, $p < .001$, Cohen's $d = 2.64$, lending support to the teachers' favorable impressions of the program. The study highlights the value of structured teacher reflection in learning recovery programs and offers implementation lessons for succeeding National Learning Camps. Given the small, purposively selected sample and the single-site design, the findings are exploratory and not intended for broad generalization; future studies should employ larger, more diverse samples and include learners, parents, and school administrators as participants.

Keywords: learning camp, mathematics teachers, reflective practice, teaching practices, learning recovery

INTRODUCTION

The COVID-19 pandemic severely disrupted basic education in the Philippines, and mathematics — a subject in which Filipino learners were already underperforming in international assessments — was among the most affected learning areas, particularly for learners in rural communities. In response, the Department of Education (DepEd) launched the National Learning Camp (NLC), a voluntary end-of-school-year program designed to mitigate learning loss and improve learning outcomes through intervention, consolidation, and enhancement camps (Department of Education, 2023). The pilot implementation in 2023 covered Grades 7 and 8 and focused on English, Science, and Mathematics, while also seeking to nurture learners' interests, socio-emotional skills, personal growth, and character development through engaging activities.

Mathematics camps have an established record as academic interventions. Prior studies report that camp-based mathematics programs improve learners' attitudes toward the subject, develop social skills, foster enjoyment of learning, strengthen motivation, and deepen appreciation of mathematics (Ling et al., 2009; Siew-Eng et al., 2010). Within such programs, the teacher remains the central figure: classroom teaching is consistently identified as a primary factor influencing learner achievement, and teachers' beliefs shape how they imagine and enact their roles in the classroom (Cross, 2009; Leung, 2005). Effective mathematics teaching is expected to develop

conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition (National Research Council, 2001).

Because the 2023 camp was a pilot implementation, the experiences of the teachers who delivered it constitute essential evidence for improving future cycles. Teacher reflection offers a systematic way of capturing this evidence. Dewey (1933) characterized reflective thinking as the active, persistent, and careful consideration of one's beliefs and practices, while Schön (1983) distinguished reflection-in-action from reflection-on-action as mechanisms through which professionals learn from experience. In teaching, reflection enables practitioners to connect theory and practice, examine learners' learning alongside the materials and strategies used, and identify actions for improvement (Farrell, 2015; Kwon & Orrill, 2007). Reflections on classroom practice can thus drive meaningful educational improvement, especially during the first implementation of a large-scale reform, when systematic feedback from the field is most needed.

This study therefore examined the reflections of five mathematics teachers who taught during the pilot National Learning Camp. Understanding their teaching experiences, practices, and challenges — in their own words — provides grounded insight into how the program operated in an actual school setting and what conditions would strengthen succeeding implementations.

Research Objectives

The study investigated mathematics teachers' reflections on their experiences and teaching practices during the National Learning Camp, covering teaching preparation, goal setting, expectations of the class, teaching strategies, self-assessed strengths and weaknesses, and the challenges they faced. Specifically, it sought to:

1. Describe Teachers' Reflections on Their Preparations, The Ready-Made Lesson Plans, Learning Materials, Strategies, And Assessment;
2. Identify The Challenges the Mathematics Teachers Encountered During the Conduct of The National Learning Camp, Together with Their Proposed Solutions; And
3. Determine The Effect of the National Learning Camp on Learners' Performance in Mathematics As Reflected In Achievement Test Results and Teachers' Perceptions.

METHODOLOGY

Research Design

The study employed an exploratory case study design within the qualitative research tradition (Yin, 2018). A case study was appropriate because the inquiry sought an in-depth, contextualized understanding of how a small group of teachers experienced and made sense of a bounded program — the pilot National Learning Camp — in a single school setting. To complement and help corroborate the qualitative findings, the design embedded a quantitative component (Creswell & Creswell, 2018) consisting of a teacher perception questionnaire and an analysis of learners' achievement test scores obtained before and after the camp.

Participants

Purposive sampling was used to select the participants: the five mathematics teachers — two females and three males — who taught during the camp. The first teacher had been teaching mathematics for over 27 years and the second for almost 23 years; the third and fourth teachers each had four years of teaching experience; and the fifth teacher was a recent graduate with no prior teaching experience who volunteered to participate in the Mathematics Camp. Pseudonyms (T1–T5) are used throughout. Table 1 summarizes the participants' profile.

Table 1. Profile of the Teacher Participants

Sex	No experience	1–5 years	21–25 years	26–30 years	Total	%
Male	–	1	1	1	3	60

Female	1	1	—	—	2	40
Total	1	2	1	1	5	100

Instruments

Three instruments were used. First, a semi-structured interview protocol (Appendix A), developed by the researcher and adapted from Siew-Eng et al. (2010), covered the teachers' preparations before their mathematics classes, goal setting, expectations of the class, teaching strategies, self-assessed strengths and weaknesses, reflections after teaching, and the problems and challenges they encountered. Second, a six-item questionnaire on a five-point Likert scale (strongly agree to strongly disagree) elicited the teachers' perceptions of learners' participation in the Mathematics Camp. Third, learners' performance data were drawn from the 30-item diagnostic and summative achievement tests provided by the National Learning Camp committee and administered before the start and at the end of the camp.

Data Collection

Interviews were conducted face-to-face, and the same set of questions was simultaneously emailed to the participants so they could provide timely written responses. Where answers were not fully articulated, the researcher followed up by email to clarify earlier responses and allow the teachers to express their views in detail. The researcher also observed the teachers' mathematics classes to gather additional information about their teaching practices; however, owing to time constraints, observations could not be carried out on a regular basis, and this is acknowledged as a limitation. Finally, the matched pre- and post-camp achievement test scores of 16 learners were obtained from the teacher participants.

Data Analysis

Interview recordings and written responses were transcribed and analyzed using thematic content analysis (Braun & Clarke, 2006). The researcher manually coded the data, then reviewed and re-read the transcripts to ensure consistency and confirmation of the codes before developing themes. Questionnaire responses were summarized using frequencies and percentages. To determine whether learners' test scores improved significantly after the camp, a paired-samples t-test was performed at $\alpha = .05$, and Cohen's d was computed as a measure of effect size (Cohen, 1988).

Ethical Considerations

Permission to conduct the semi-structured interviews was secured from the participants, who were informed of the purpose of the study and of their right to decline or withdraw. To promote a comfortable environment, no time limit was imposed on the interview sessions. Anonymity and privacy were protected through the use of pseudonyms in the transcriptions and in the presentation of data, and all evidence was kept confidential throughout the study.

RESULTS

Teachers' Reflections on Their Teaching Experiences and Practices

The teacher participants shared their experiences and practices during the implementation of the National Learning Camp along seven dimensions: preparation before the class begins, goal setting, expectations of the class, teaching strategy, strengths as a teacher, tools used to improve learning, and successes in teaching the learners. Their responses are presented in Table 2, and the codes and themes derived from the thematic analysis are summarized in Table 3.

Table 2. Teacher Participants' Responses on the Dimensions of Their Teaching Practices During the Camp

Dimension of teaching practice	Teacher participants' responses
Preparation before the class begins	T1: Get information on students' background.

	T2: Do revision, like practicing some related questions, and prepare the teaching material. T3: Attend the NLC 2023 training. T4: Searched YouTube for lessons. T5: Prepare myself.
Goal setting	T1: Yes, to achieve the lesson objectives and to deliver the topic based on the lesson plan. T2: Yes, to teach within the given time. T3: Finish the lessons within the time period. T4: Teach and have fun. T5: Enjoyable learning experience.
Expectation from class	T1: Learners will do homework, understand most of the lesson, and pass the subject. T2: Learners are expected to understand the lesson of the day. T3: Learners participate actively. T4: Learners' perfect attendance in class. T5: Maximum learning.
Teaching strategy	T1: No specific method; use collaborative learning in certain classes. T2: Use various teaching methods depending on students' level of understanding. T3: Include math songs and action songs as a springboard before the lessons. T4: Math activities such as puzzles and Question-and-Answer with a Twist. T5: Group work.
Strength of being a teacher	T1: Always strive hard to deliver the best to the students. T2: Able to give examples spontaneously and have good voice intonation. T3: Energetic, full of energy. T4: Smiling and patient. T5: Loud voice.
Tools used to improve learning	T1: PowerPoint presentation. T2: Teacher-made assessment. T3: Provide worksheets for each learner. T4: Fun-filled math games. T5: Activity sheets for group work.
Successes in teaching the learners	T1: Finished the enhancement program. T2: Learners enjoyed the fun-filled activities. T3: Ready-made lesson plans are well prepared. T4: Soft copies of materials are also provided. T5: Collaboration among experts helps a lot.

Table 3. Themes and Codes on Teachers' Responses Based on Their Teaching Experiences and Practices During the Camp

Theme	Codes
Preparations	student information, teaching materials, trainings, prepare lessons, self-preparation
Goal setting	achieve objectives, deliver based on the lesson plan, teach within the time period, fun, enjoyable
Expectations	do homework, understand the lesson, participate actively, attend classes, maximum learning
Strategy	various methods, collaborative learning, math songs, action songs, springboard, math activities, puzzles, question-and-answer with a twist, group work
Strength	strive hard, deliver the best, spontaneous, good intonation, energetic, smiling, patient, loud voice

Tools	lesson presentation, assessment, worksheets, games, activity sheets
Outcomes	program completed, learners enjoyed, fun-filled learning, well-prepared lesson plans, materials were provided, collaboration

The findings show that the teachers undertook different preparations before the conduct of the NLC and that their teaching approaches varied, as reflected in their responses. Their goal, however, was the same: a successful program. Their expectations centered on the good of every learner, even as their strategies and approaches differed; their self-assessed strengths varied, yet they drew on similar tools and learning resources to support learners' learning. Such reflections create opportunities for positive changes in the teachers' views and practices in the long run. Based on the classroom observations, differences in teaching practice were evident between the experienced teachers and the novice teacher; nevertheless, the participants' responses suggest that the novice teacher coped well and was as motivated as the others, possibly because of the ready-made learning materials and other resources available, as well as the teachers' collaboration with one another.

Challenges Encountered During the National Learning Camp

The participants were asked about the difficulties they encountered when implementing the NLC in their school. Their experiences demonstrate the tangible nature of the implementation process and the commitment and assistance they received at school. Thematic analysis of the transcripts revealed four major challenges, summarized in Table 4.

Table 4. Challenges Encountered by the Teacher Participants During the Camp

Area of concern	Teacher participants' responses
Learning materials	T1: Lack of materials for fun-filled activities; not all learners were able to receive the printed materials on time. T2: Lack of school-based preparations. T3: Instructional materials were not given on time. T4: Preparation time is not enough. T5: Spaces provided in the worksheets for the solutions are small.
Ready-made lesson plans	T1: Difficult to achieve the lesson objectives and to deliver the topic based on the lesson plan. T2: Cannot teach within the given time. T3: It is well made, but the lessons cannot be finished within the time period. T4: Not all contents in the lesson plan were covered. T5: The content is comprehensive and well compiled but given in a short time.
Weakness of being a teacher	T1: Teach very fast. T2: Not proficient teaching in English and teach very fast. T3: Lack of self-confidence. T4: Soft voice. T5: Easily get tired.
Problems in class	T1: Learners give problems in class, such as being passive and not doing their homework. T2: Difficult to control the students; was not able to deal with students' inattentiveness. T3: Retention is low; tardiness and absenteeism. T4: Lack of basic problem-solving skills; difficulty in the fundamental operations. T5: Review time allotments are not enough.

Preparation and resources. Teachers experienced difficulties in their preparation owing to a shortage of printed materials and resources, particularly the learning materials to be provided to learners and the ready-made lesson plans for teachers. The responses indicated a lack of school-based preparedness: the school community did not take all the steps necessary to ensure that the program could be implemented smoothly. Despite these difficulties, the teacher participants remained enthusiastic and took the initiative to produce resources for the learners.

Adequate time. A second challenge was the shortage of time for both in-class and out-of-class activities. In general, the teachers stated that they did not have enough time to teach everything that needed to be taught, and that learners did not have enough time to learn everything that needed to be learned. Out-of-classroom activities

were rarely undertaken because of time constraints and the large number of activities that had to be held during the period. While the teachers would have liked to plan more fun-filled class activities, the lack of time hindered them from doing so.

Teachers' self-confidence and self-efficacy. Because the NLC was entirely voluntary, not all teachers participated, and any teacher — including those with no prior teaching experience — was welcome to join. The responses of some participants, particularly the less experienced ones, revealed feelings of inadequacy. Despite these limitations, they remained willing to commit to the program's success.

Student behavior. A further challenge observed throughout the NLC was the learners' unfavorable disposition and lack of enthusiasm, evidenced by passiveness, inattentiveness, tardiness, and absenteeism. Some learners also had difficulty retaining the material they had learned. Despite these odds, the teachers remained committed to the program's aims and activities through the interventions and approaches they devised.

The first National Learning Camp implementation is an essential step in the reform process to address and improve learning outcomes, and the way schools respond to a transition process can either assist or hinder that transformation. School administrators and supervisors are in a position to lead schools through the challenges of reform implementation; understanding what they do to overcome implementation challenges and build capacity for improvement is therefore significant.

Teacher Participants' Proposed Solutions for Improvement

In light of the difficulties encountered during the pilot implementation, the teacher participants recommended solutions for the program's enhancement, summarized in Table 5. They emphasized that thorough preparation, proper orientation, teacher training, increased teacher involvement, classroom setup, timely learning materials, and lesson plans with challenging yet fun-filled activities are essential to learners' active participation and motivation and to the successful implementation of future National Learning Camps.

Table 5. Teacher Participants' Proposed Solutions for Improvement

Area of concern	Teacher participants' responses
Preparations	T1: Long preparation should be conducted before NLC implementation. T2: Proper orientation of participants will be done ahead of time. T3: Training for new teachers with no teaching experience yet. T4: Classroom setup, chairs, and the environment will be ready. T5: Include free snacks.
Learning materials	T1: Additional materials for fun-filled activities. T2: All learners should be able to receive the printed materials on time. T3: Instructional materials should be given ahead of the class schedule. T4: Preparation time will be considered. T5: Spaces provided in the worksheets should be enough for writing solutions and answers.
Teachers	T1: More teachers to participate. T2: There must be breaks in between schedules. T3: Teamwork; two teachers per subject area. T4: Incentives will be given to teacher volunteers. T5: Alternate schedules and a teachers' lounge for rest.
Problems in class	T1: No lengthy homework; if possible, activities will be done in school. T2: Teamwork will be encouraged to deal with students' inattentiveness. T3: Challenging but motivating activities to encourage perfect attendance. T4: Provide activities that develop problem-solving skills and critical thinking. T5: Enough time allotment for each activity.

The Role of Reflection in Mathematics Teaching Practices

To promote reflection in their teaching practices, the teacher participants proposed ideas that can be implemented before, during, and after class: making observations and comparing what they see over time, taking their own attitudes into consideration, and exploring the conflicts that may arise as they teach. These ideas would help teachers become more conscious of their decisions and make their teaching strategies more effective.

The reflection process should describe what happened in the teaching and learning of a mathematics class: teachers can write down a description of the event, an analysis of the event, and the proposed actions following it. Reflection proved to be a productive way of managing classroom interactions and keeping learners engaged until the end of the program. It also provided insight into the teaching process and the teachers' roles in fostering mathematical learning. Furthermore, reflection contributed to improvement in both the school and the teachers, resulting in the positive changes that the NLC program aims for.

Teachers' Perceptions of Learners' Participation in the Mathematics Camp

Six statements measured the teacher participants' perceptions of learners' participation in the Mathematics Camp (Table 6). For the statements "Mathematics Camp activities were very interesting and enjoyable for learners" and "Mathematics Camp activities attracted learners' interest toward Mathematics," 80% of the participants strongly agreed and 20% agreed. All participants (100%) strongly agreed that the activities motivated learners to learn mathematics, that learners were actively involved in the activities, and that learners liked to cooperate with their peers in group activities. Overall, 80% of the teacher participants strongly agreed and 20% agreed that the learners were satisfied with the Mathematics Camp activities. No participant selected not sure, disagree, or strongly disagree for any statement.

Table 6. Teachers' Perceptions of Learners' Participation in the Mathematics Camp (Percentage of Responses, n = 5)

Statement	SA (%)	A (%)	NS (%)	D (%)	SD (%)
1. Mathematics Camp activities were very interesting and enjoyable for learners.	80	20	0	0	0
2. Mathematics Camp activities attracted learners' interest toward Mathematics.	80	20	0	0	0
3. Mathematics Camp activities motivated learners to learn Mathematics.	100	0	0	0	0
4. Learners were actively involved in the Mathematics Camp activities.	100	0	0	0	0
5. Learners liked to cooperate with their peers in group activities.	100	0	0	0	0
6. Learners were satisfied with the Mathematics Camp activities.	80	20	0	0	0

Note. SA = strongly agree; A = agree; NS = not sure; D = disagree; SD = strongly disagree.

The teachers' open-ended observations of learners during the camp were likewise analyzed thematically. Three themes emerged — active involvement, interest toward mathematics, and cooperation — as shown in Table 7.

Table 7. Themes and Codes on Teachers' Observations of Learners' Engagement in the Mathematics Camp

Representative responses	Codes	Theme
T1: Students participate in the activities. T2: Students are doing homework. T3: Students are answering and participating in all activities.	participating, doing homework, answering, actively involved, having fun,	Active involvement

T4: Students are actively involved and enjoyed the fun-filled games; they meet some new friends. T5: Students like answering on the board and joining fun-filled games.	meeting new friends, joining games	
T1: Students are competing with other groups in games, solving puzzles. T2: Students love singing math songs. T3: Students are having fun; they are happy with the prizes they received after answering the tasks correctly. T4: Students are motivated to ask questions and answer our activities. T5: Students learned new things about mathematics; they find it very interesting and enjoyable; they are motivated and confident to answer on the board and join the activities.	competing, solving, singing, having fun, asking questions, motivated, interested, confident	Interest toward mathematics
T1: They do cooperate by participating in games and activities. T2: Students cooperate by helping one another.	participating, helping, cooperation in group activities	Cooperation

Learners' Performance Before and After the Mathematics Camp

The teachers were optimistic in their impressions that learners had improved both their interest and motivation and their grasp of the concepts taken up during the camp. To validate these insights, the matched scores of 16 learners on the 30-item achievement test administered before and after the camp were analyzed (Table 8). Before the camp, the learners' mean score was 12.50 (SD = 4.40), below the passing mark of 18 (60% of the total items). After the camp, the mean score rose to 21.13 (SD = 2.36), well above the passing mark, and every learner's score increased.

Table 8. Learners' Scores in Mathematics Before and After the Camp (n = 16)

Learner	Before NLC	After NLC
A	14	22
B	17	23
C	13	21
D	16	23
E	20	24
F	12	20
G	6	15
H	18	22
I	19	23
J	10	19
K	10	23
L	11	23
M	9	20
N	7	20
O	8	22
P	10	18
Mean	12.50	21.13

A paired-samples t-test was conducted to determine whether the increase in scores was statistically significant, testing the null hypothesis that the mathematics enhancement program had no effect on the learners' scores. As shown in Table 9, the mean gain of 8.63 points was significant, $t(15) = 10.57$, $p < .001$, with a very large effect

size (Cohen's $d = 2.64$). The null hypothesis was therefore rejected. These results corroborate the teachers' perceptions and suggest that the program had a meaningful association with the learners' improved performance in mathematics, although the absence of a comparison group means the gains cannot be attributed to the camp alone.

Table 9. Paired-Samples t-Test on Learners' Scores Before and After the Camp

Before: M (SD)	After: M (SD)	Mean diff. (SD)	t	df	p	Cohen's d
12.50 (4.40)	21.13 (2.36)	8.63 (3.26)	10.57	15	< .001	2.64

Note. $\alpha = .05$. H_0 : The mathematics enhancement program has no effect on the learners' scores.

DISCUSSION

Although this study focused on a particular case in a specific setting, it was intended to create awareness among teachers that reflection is important in teaching and can serve as a means of facilitating learners' learning and improving classroom strategy. The teachers' reflections revealed practices that were similar in purpose but varied in form: their preparations, strategies, and self-assessed strengths differed, yet all converged on the common goal of a successful program for the benefit of every learner. This pattern is consistent with the view that teachers' beliefs shape how they imagine and act out their roles in the classroom (Cross, 2009), and that effective mathematics teaching can take many forms while pursuing the same strands of mathematical proficiency (National Research Council, 2001).

The finding that the novice volunteer coped well and remained as motivated as the experienced teachers is noteworthy. The ready-made lesson plans, the shared learning materials, and especially the collaboration among the teachers appear to have functioned as scaffolds that compensated for limited experience. This echoes the role of reflection-on-action described by Schön (1983): by examining their experiences alongside colleagues, less experienced teachers can convert classroom events into professional learning (Farrell, 2015; Kwon & Orrill, 2007).

The four challenges that emerged — preparation and resources, adequate time, teachers' self-confidence and self-efficacy, and student behavior — mirror difficulties commonly reported in camp-based mathematics interventions (Ling et al., 2009; Siew-Eng et al., 2010) and in the early stages of large-scale reforms more generally. That the teachers paired each challenge with concrete, actionable solutions underscores the formative value of structured reflection during a pilot implementation: the participants did not merely describe problems but identified the appropriate actions to be taken in response.

Finally, the significant improvement in learners' achievement scores, with a very large effect size, lends quantitative support to the teachers' favorable perceptions of the camp. This result is consistent with earlier findings that mathematics camps improve learners' attitudes, motivation, and engagement with the subject (Ling et al., 2009). Nevertheless, the result should be read with caution: the single-group pre-post design cannot rule out other influences on the learners' gains, such as practice effects or concurrent instruction.

Limitations. This study examined five teachers in one school during a single pilot implementation, so the findings are not intended to be generalized beyond comparable settings. The small sample size restricts the breadth and representativeness of the findings: with only five teacher participants, it is not possible to draw conclusions applicable to the wider population of NLC teachers across different schools and regions. Because participants were purposively selected — specifically, all mathematics teachers who taught in that particular camp — the study is also subject to selection bias, which limits the diversity of perspectives represented. The quantitative component relied on achievement scores from a relatively small group of 16 learners without a comparison group, making it difficult to determine whether the observed gains can be attributed solely to the National Learning Camp or to other concurrent factors. Additionally, classroom observations were limited by time constraints, and the interview data are self-reported and thus susceptible to social desirability bias. These limitations are consistent with the exploratory purpose of the study, which was to surface implementation lessons rather than to estimate program effects.

CONCLUSION AND RECOMMENDATIONS

This study examined teachers' perspectives, classroom teaching experiences, and practices during the conduct of the pilot National Learning Camp. The teachers' practices showed both similarities and variations: they differed in preparation, strategy, and implementation, yet these differences led to a shared direction toward the program's common goal. Collaboration allowed the participants to learn from one another, and when faced with challenges, they took the initiative — particularly in devising innovative methods of teaching to ignite learners' interest in mathematics.

The teachers' willingness to take part contributed to the success of the implementation, even as improvements remain to be made. Through reflection, they recognized their enthusiasm for teaching while accelerating their learners' learning. They were well aware that learners learn mathematics in various ways and that effective teaching should begin with understanding how learners think about mathematics; however, because of time constraints, they were largely limited to what was provided in the ready-made lesson plans and learning materials. Despite the challenges encountered, the outcomes were favorable, as demonstrated by the analysis of the learners' achievement results.

Future work should extend the inquiry to the other learning areas of the camp, such as Science and English, and include other year levels to broaden the scope of the study. To address the generalizability concerns of the present study, subsequent investigations should involve larger and more diverse samples of teachers drawn from different schools, regions, and educational settings. Expanding the participant base beyond teachers to include learners, parents, and school administrators would provide a more comprehensive and multi-perspectival understanding of the National Learning Camp's effectiveness and challenges. Adopting a longitudinal design would also allow researchers to examine whether improvements in learner achievement and changes in teacher practice are sustained over time and across multiple implementation cycles. Such studies may also employ comparison groups and regular classroom observations to provide more thorough evidence on the effects of the National Learning Camp, and may examine how the teachers' proposed solutions — earlier preparation, timely materials, teacher training and incentives, and realistic time allotments — influence implementation quality in succeeding camps.

REFERENCES

1. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
2. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
3. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
4. Cross, D. I. (2009). Alignment, cohesion, and change: Examining mathematics teachers' belief structures and their influence on instructional practices. *Journal of Mathematics Teacher Education*, 12(5), 325–346. <https://doi.org/10.1007/s10857-009-9120-5>
5. Department of Education. (2023). *Policy guidelines on the implementation of the National Learning Camp* (DepEd Order No. 014, s. 2023). <https://www.deped.gov.ph/>
6. Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. D.C. Heath.
7. Farrell, T. S. C. (2015). *Promoting teacher reflection in second language education: A framework for TESOL professionals*. Routledge.
8. Kwon, N.-Y., & Orrill, C. H. (2007). Understanding a teacher's reflections: A case study of a middle school mathematics teacher. *School Science and Mathematics*, 107(6), 246–257.
9. Leung, F. K. S. (2005). Some characteristics of East Asian mathematics classrooms based on data from the TIMSS 1999 video study. *Educational Studies in Mathematics*, 60(2), 199–215. <https://doi.org/10.1007/s10649-005-3835-x>

10. Ling, S. E., Lai, K. L., & Ling, S. C. (2009, June 10–11). The effect of Mathematics Camp: Stakeholders' perception and pupils' attitude towards mathematics [Paper presentation]. International Conference on Educational Research and Practice (ICERP) 2009, Putrajaya, Malaysia.
11. National Research Council. (2001). Adding it up: Helping children learn mathematics. National Academy Press.
12. Schön, D. A. (1983). The reflective practitioner: How professionals think in action. Basic Books.
13. Siew-Eng, L., Kim-Leong, L., & Siew-Ching, L. (2010). Mathematics Camp model for primary school. *Procedia – Social and Behavioral Sciences*, 8, 248–255. <https://doi.org/10.1016/j.sbspro.2010.12.034>
14. Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). SAGE Publications.

Appendix A

Interview Protocol on the Conduct of the National Learning Camp (NLC) 2023

Background information

Type of school where currently teaching: Public school / Private school / Others. Number of years in teaching (College / High School / Elementary).

Questions on the conduct of the NLC

1. What are your preparations before the conduct of the NLC?
2. What are the problems you encountered during the conduct of the NLC?
3. What are your reflections in terms of: (i) the ready-made lesson plan; (ii) the learning materials; (iii) problems or issues; (iv) proposed solutions; and (v) the summative test?
4. What are the tools you use to improve students' learning?

Questions about the NLC experience

1. What about the NLC did you like best?
2. What aspects of the NLC most interest you?
3. Were there aspects of the NLC that you did not expect?

Questions about the coaching experience

1. What about the instructional coaching did you find useful?
2. What aspects of the instructional coaching did you find least useful?

Questions about teaching the students

1. What challenges did you have in teaching the students?
2. What successes did you have in teaching the students?