EXPLORING CHALLENGES AND MITIGATION MEASURES IN THE IMPLEMENTATION OF THE LEARNING ACTION CELL (LAC) PROGRAM: A QUADRANT-BASED ANALYSIS

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ABSTRACT: *This study aimed to investigate the challenges encountered in the implementation of the Learning Action Cell (LAC) and the measures used to mitigate these challenges. The research objectives were to determine the level of occurrence of challenges and to assess if there are differences across different quadrants. The study also examined the measures employed to address these challenges. The findings revealed that the level of occurrence of challenges in terms of scheduling, activities, commitment and responsibility, funding, and ICT issues was generally low. Specific challenges, such as lack of prior notice on the timing of LAC and scheduling conflicts, were identified but occurred infrequently. Furthermore, the study found that there were significant differences in the level of occurrence of challenges across quadrants in terms of scheduling, activities, and commitment and responsibility. These differences were attributed to factors such as individual school practices, the number of resource persons available, and variations in school type, geographical location, and staff size. Regarding measures to mitigate challenges, participants most commonly agreed on the timeliness of LAC sessions with group mates to address scheduling issues. However, the use of reward systems for perfect attendance during LAC sessions was less prevalent, indicating that intrinsic motivation played a significant role in maintaining commitment and responsibility.*

Keywords: Learning Action Cell, challenges, mitigation strategies, educational administration, professional development.

INTRODUCTION

Education holds immense significance in driving societal progress and fostering the advancement of civilization [2]. The pursuit of quality education remains a paramount concern as it encompasses the holistic development of students, encompassing their mental, social, emotional, physical, and cognitive growth [1]. The Department of Education (DepEd) in the Philippines is committed to delivering quality basic education and recognizes the critical link between the quality of teaching and the quality of learning. DepEd places great emphasis on the continuous professional development of teachers, aligning with the principles of lifelong learning, as it acknowledges that teachers' profound knowledge and specialized skills are acquired and sustained through rigorous and ongoing study [3]. By intensifying efforts in enhancing teachers' professional development, DepEd aims to ensure the provision of quality instruction to all learners.

The Department of Education (DepEd) has implemented a policy, outlined in DepEd Order No.35, s. 2016, known as "The Learning Action Cell (LAC) as a Kto12 Basic Education Program School-Based Continuing Professional Development Strategy for the Improvement of Teaching and Learning" [11]. It encourages collaborative efforts among teachers, allowing them to enhance their content knowledge, pedagogy, and lesson planning through interactions with their peers. The policy promotes the creation of a school-based professional learning community that fosters the improvement of instructional practices, leading to enhanced student achievements.

REVIEW OF LITERATURE

Professional Development

Professional development plays a crucial role in enhancing skills and staying updated with the evolving demands of a profession [14]. In today's competitive professional landscape, continuous growth and development are essential for achieving career goals and success [7]. Recognizing the significance of quality instruction in improving learning outcomes, the Department of Education (DepEd) emphasizes the importance of a professional development program. By fostering professional learning communities, teachers can enhance their instructional competence and acquire new knowledge and strategies.

The Learning Action Cell (LAC) Program

The Learning Action Cell (LAC) serves as a collaborative platform for teachers to enhance their knowledge, skills, and attitudes through joint planning, problem-solving, and action implementation. LAC features include ongoing collaborative learning, independent learning, reflective practice, and collective competence [13]. A typical LAC consists of 5 to 15 members and can be grouped based on grade level assignment, learning area or programs, or career stage [12]. In cases of multigrade schools, clustering may be done at the discretion of district or division supervisors.

Research Objectives

The following research objectives were constructed to identify the challenges faced during LAC implementation as well as the measures utilized in mitigating these said challenges.

1. To identify and explore the challenges faced in the implementation of the LAC with regards to:
   a) Scheduling,
   b) Activities,
   c) Commitment and Responsibility,
   d) Funding, and
   e) ICT Issues.
2. To examine if there exists a noteworthy disparity in the challenges encountered during the implementation of the LAC when data is categorized by quadrant.
3. To identify and analyze the measures employed in alleviating the challenges encountered during the implementation of the LAC.

METHODOLOGY

Research Design

The research design employed in this study was descriptive research, which aims to examine and describe the current state of a phenomenon [11,5]. Descriptive research involves observing and identifying the attributes, characteristics, frequencies, trends, and categories associated with a particular topic or problem [7]. This research approach is particularly suitable when there is limited existing knowledge about the subject matter and when the focus is on understanding the "how, when, and where" of a phenomenon before delving into its underlying causes [1].

Data Source

The study took place in the southern Philippines, covering twelve districts grouped into four quadrants (1.1, 1.2, 2.1, 2.2). It involved 554 participants—187 school principals and 367 public elementary teachers—selected using Slovin's formula (95% CI, 5% margin of error) and the snowball convenience sampling method. Data were gathered through Likert-type questionnaires developed from related literature and analyzed using SPSS version 26.

Procedure

The collection of data for this study was conducted with the approval of the Schools Division Superintendent, ensuring compliance with ethical standards. To adhere to health and safety measures, data collection was carried out online through Google Forms. The researcher coordinated with district offices to acquire the list of schools under their jurisdiction. Before participating, respondents were provided with an informed consent form that they had to complete before gaining access to the questionnaire.

Data Analysis

The responses gathered from the research instruments underwent coding for further analysis. Quadrants were assigned numerical values ranging from 1 to 4, while a 4-point scale was utilized to assess the extent of implementation. Descriptive statistical methods were applied to analyze and interpret the data. The Weighted Arithmetic Mean was computed to determine the overall extent of LAC challenges encountered, while the Median was calculated to assess the frequency of challenges encountered. Additionally, the Frequency and Percentage were determined to identify the most commonly occurring values in the checklist for Mitigating Measures during the LAC Sessions.

RESULTS AND DISCUSSIONS

Challenges encountered in the implementation of the LAC program in terms of: scheduling, activities, commitment and responsibility, funding, and ICT issues?

The survey questionnaire responses related to the challenges encountered in the implementation of LAC were coded and analyzed using descriptive statistics. Measures of central tendency such as the Mean (M) and Median (Mdn), along with the standard deviation (SD) for data variability, were employed. The data analysis is presented in Tables 4.11, 4.12, 4.13, 4.14, and 4.15, which include the frequencies and corresponding percentages for each questionnaire item, as well as the Median (Mdn) and Mean (M) values. These values were interpreted based on the following ranges: 1.00 - 1.74 (Very Low Level of Occurrence [VLLO]), 1.75 - 2.49 (Low Level of Occurrence [LLO]), 2.50 - 3.24 (High Level of Occurrence [HLO]), and 3.25 - 4.00 (Very High Level of Occurrence [VHLO]).

Table 1. Level of Occurrence of the Challenges in terms of Scheduling

#	Statements	Responses N (1)		R (2)		S (3)		A (4)	Mdn	M	Interp
		N	%	N	%	N	%	N			
1	Falls on a busy schedule	111	20	161	29.1	258	46.6	24	3.0	2.35	LLO
2	Overlaps with teacher's classes	154	27.8	177	31.9	205	37	18	2.0	2.16	LLO
3	NO prior notice on the timing of LAC	249	44.9	166	30	128	23.1	11	2.0	1.82	LLO
4	Time exceeded beyond time allotment	111	20.0	187	33.8	235	42.4	21	2.0	2.30	LLO
5	Time Constraints	133	24	183	33	215	38.8	23	2.0	2.23	LLO
6	Timeline is NOT properly planned	236	42.6	184	33.2	124	22.4	10	2.0	1.83	LLO
Overall Level of Occurrence of the Challenges in terms of Scheduling										2.12	LLO

The analysis of Table 2 data offers insights into scheduling challenges within Learning Action Cell (LAC) implementation. The overall mean score of 2.12 and standard deviation of 0.71 indicate a Low Level of Occurrence (LLO) for these challenges, suggesting infrequent encounters among respondents. Specifically, challenges related to insufficient notice and improper planning received the lowest mean scores of 1.82 and 1.83, respectively, further supported by median values of 2.0, indicating rare occurrences. This suggests effective scheduling practices, possibly facilitated by integration with the School Improvement Plan (SIP), ensuring session adherence. However, challenges concerning time management during sessions, such as busy schedules and task overlaps, obtained mean scores ranging from 2.16 to 2.35, also interpreted as LLO but with 38% to 46% of respondents occasionally facing them.

Table 2. Presents the level of occurrence of the challenges in terms of activities.

#	Statements	Responses N (1)		R (2)		S (3)		A (4)		Mdn	M	Interp.
		N	%	N	%	N	%	N	%			
1	Topics are not universal, other teachers cannot apply the topics in their class	207	37.4	168	30.3	165	29.8	14	2.5	2.0	1.97	LLO
2	The activities are boring and not organized	243	43.9	170	30.7	136	24.5	5	0.9	2.0	1.82	LLO
3	Less preparation for the materials and resources	198	35.7	192	34.7	154	27.8	10	1.8	2.0	1.96	LLO
4	Common and familiar contents	118	21.3	176	31.8	236	42.6	24	4.3	2.0	2.30	LLO
5	Redundant topics	166	30	181	32.7	195	35.2	12	2.2	2.0	2.10	LLO
6	Activities are time consuming	134	24.2	172	31	223	40.3	25	4.5	2.0	2.25	LLO
7	Some topics are less important in improving professional competence	195	35.2	184	33.2	164	29.6	11	2.0	2.0	1.98	LLO
Overall Level of Occurrence of the Challenges in terms of Activities											2.06	LLO

The analysis of the data in Table 3 reveals that the challenges related to activities in the implementation of LAC have a low level of occurrence. Activities are generally well-planned and engaging, with minimal reports of boredom, disorganization, or irrelevant topics. Time-consuming or non-universal topics were rarely noted, and most respondents found the sessions beneficial and applicable to their classes. Preparation-related issues were uncommon, indicating adequate time and resources were provided. Redundant or overly familiar topics were also seldom encountered, suggesting sessions are tailored to teachers' needs. Overall, LAC sessions are effectively planned, relevant, and responsive to current eaching challenges.

Table 3. The level of occurrence of the challenges in terms of commitment and responsibility.

#	Statements	Responses N (1)		R (2)		S (3)		A (4)		Mdn	M	Interp.
		N	%	N	%	N	%	N	%			
1	Weak participation of LAC members in learning achievements.	206	37.2	195	35.2	145	26.2	8	1.4	2.0	1.92	LLO
2	No teamwork.	280	50.5	162	29.2	106	19.1	6	1.1	1.0	1.71	VLLO
3	Other LAC members are taking the sessions for granted.	249	44.9	165	29.8	132	23.8	8	1.4	2.0	1.82	LLO
4	Insufficient information about the importance LAC implementation in schools.	240	43.3	181	32.7	127	22.9	6	1.1	2.0	1.82	LLO
Overall Level of Occurrence of the Challenges in terms of Commitment and Responsibility											1.82	LLO

The analysis of the data in Table 4 reveals that challenges related to commitment and responsibility in the implementation of LAC have a low level of occurrence. The overall mean score of 1.82 and standard deviation of 0.76 suggest that respondents rarely or never encountered these challenges. Over half of respondents reported never experiencing such issues, and "No teamwork" had the highest rate of no occurrence. These results indicate that LAC leaders and members value the program, fostering a professional learning community that promotes social cohesion, positive school culture, and effective session implementation..

Table 4. Level of Occurrence of the Challenges in terms of Funding.

#	Statements	Responses N (1)		R (2)		S (3)		A (4)		Mdn	M	Interp.
		N	%	N	%	N	%	N	%			
1.	Resource mobilization is insufficient.	172	31	181	32.7	179	32.3	22	4.0	2.0	2.09	LLO
Overall Level of Occurrence of the Challenges in terms of Funding											2.09	LLO

The analysis of the data in Table 5 indicates that challenges related to funding in the implementation of LAC have a low level of occurrence. The overall mean score of 2.09 and standard deviation of 0.88 suggest that respondents rarely or never encountered challenges related to resource mobilization in their LAC implementation. This finding implies that funding is not a significant issue in the implementation of LAC.

Table 5. Level of Occurrence of the Challenges in terms of ICT Issues.

#	Statements	Responses N		R		S		A		Mdn	M	Interp.
		N	%	N	%	N	%	N	%			
1.	No gadget for online LAC sessions in this time of pandemic	147	26.5	171	30.9	199	35.9	37	6.7	2.0	2.23	LLO
2.	Slow to No internet connection in the area during online LAC sessions	53	9.6	95	17.1	276	49.8	130	23.5	3.0	2.87	HLO
3.	Lacks ICT Literacy skills	119	21.5	155	28	255	46	25	4.5	3.0	2.34	LLO
Overall Level of Occurrence of the Challenges in terms of ICT Issues											2.48	LLO

The analysis of the data in Table 6 highlights the challenges related to ICT issues in the implementation of LAC. Overall, these challenges have a low level of occurrence, as indicated by an average score of 2.48 and a standard deviation of 0.77. While lack of gadgets is rare, slow or unavailable internet remains a common issue due to weak infrastructure. Other concerns include low-end devices, limited home connectivity, anxiety during on-site sessions, and mask-related discomfort. Addressing these requires better internet access, reliable devices, and supportive learning environments for both online and on-site LAC sessions.

Is there a significant difference in the challenges encountered in the LAC implementation when data are grouped by Quadrant?

Table 6.. The Kruskal-Wallis Test on the Difference in Challenges. (Scheduling vs Quadrants).

Quadrant	*n*	Average Rank
1.1	135	304.20
1.2	82	309.45
2.1	153	284.20
2.2	184	238.10
Overall	*554*	*P=0.001 (adjusted for ties)*
T=18.54	*df=3*	

The presented table displays the results of the Kruskal-Wallis Test, examining the differences in the distribution of challenges related to scheduling among the four quadrants. The obtained test statistic is 18.54, indicating a significant difference at a significance level of 0.05. This suggests that the distribution of challenges varies across the quadrants. To identify the specific quadrant and scheduling activity that differ, a pairwise comparison was conducted, and the results are presented in Table 8.

Table 7. The Kruskal-Wallis Test on the Difference in Challenges: Activities vs Quadrant

Quadrant	*n*	Average Rank
1.1	135	295.59
1.2	82	283.58
2.1	153	294.56
2.2	184	247.33
Overall	*554*	*P=0.017 (adjusted for ties)*
T=10.205	*df=3*	

The Kruskal-Wallis Test was conducted to examine the distribution differences of challenges in terms of Activities across the four quadrants. The test statistic yielded a value of 10.205, which is statistically significant at the 0.05 level. This indicates that there are variations in the distribution of challenges across the quadrants.

Table 8. The Kruskal-Wallis Test on the Difference in Challenges: Commitment and Responsibility vs Quadrant

Quadrant	*n*	Average Rank
1.1	135	303.35
1.2	82	301.90
2.1	153	279.77
2.2	184	245.76
Overall	*554*	*P=0.037 (adjusted for ties)*
T=13.26	*df=3*	

The Kruskal-Wallis Test was conducted to examine the distribution difference of the challenges related to Commitment and Responsibility across the four quadrants. The test statistic obtained was 13.26, which is significant at the 0.05 level. This indicates that the distribution of challenges varies across the quadrants.

Table 9. The Kruskal-Wallis Test on the Difference in Challenges: Funding vs Quadrant.

Quadrant	*n*	Average Rank
1.1	135	304.76
1.2	82	285.13
2.1	153	272.47
2.2	184	258.28
Overall	*554*	*P=0.054 (adjusted for ties)*
T=7.68	*df=3*	

The Kruskal-Wallis Test results for the challenges related to Funding across the four quadrants indicate that there is no significant difference in the level of occurrence of this challenge. The Mean score and Median value both indicate a low level of occurrence, suggesting that all quadrants rarely encounter issues with insufficient funding for their LAC sessions. This can be attributed to the uniform guidelines provided by DepEd Order No. 35, s.2016, which promotes a school-based approach to professional development, utilizing the school's own resources and creating a professional community within the school. As a result, the need for substantial funding is minimized, and all quadrants rarely face funding challenges in implementing their LAC activities.

Table 10. The Kruskal-Wallis Test on the Difference in Challenges: ICT Issues vs Quadrant.

Quadrant	n	Average Rank
1.1	135	284.97
1.2	82	269.88
2.1	153	301.71
2.2	184	255.29
Overall	554	P=0.059 (adjusted for ties)
T=7.62	df=3	

The Kruskal-Wallis Test results demonstrate that there is no significant variance in the occurrence of ICT issues across the four quadrants, as indicated by a non-statistically significant test statistic of 7.62 at p=0.05, supporting the retention of the Null hypothesis. This implies that challenges concerning ICT, such as internet connectivity, ICT skills, and gadget availability are consistent across areas, with connectivity and proficiency most prominent. Echoing Shah et al. (2022), the findings highlight the need to strengthen teachers' ICT competencies to improve productivity and address implementation challenges, especially in the context of widespread online learning.

What are the measures used in mitigating the challenges in the implementation of the LAC?

Table 11. Ways in Mitigating the Challenges in the Implementation of LAC.

Statement	f N=554	%
Agree on the Timeliness of the LAC sessions with LAC group mates	473	85
Remind members on the time schedule for LAC at least 1 week before the session	387	70
Set realistic goals for all LAC sessions to avoid exceeding the time allotted for the session	373	67
Conduct LAC orientation at the beginning of the school year in order to be fully aware of its value and importance.	393	71
Religiously conduct the Needs Assessment of teachers before the start of the school year	335	60
Involve all LAC members in determining the priority topics	380	69
The school provides internet data during online LAC to ensure 100% attendance	292	53
Provide reward system for a perfect attendance during LAC sessions	215	38

Data show that 85% of respondents address scheduling challenges by agreeing on session timeliness, reflected in high planning stage scores. Scheduling issues are rare (M = 2.12), with 70% also sending reminders a week in advance. Reward systems for perfect attendance are less common (38%), yet commitment-related challenges remain low (M = 1.83), suggesting members are intrinsically motivated. Overall, effective scheduling practices and self-driven participation support smooth LAC implementation.

CONCLUSIONS

This study pursued three objectives on LAC implementation. First, it found low occurrence of challenges in scheduling, activities, commitment, funding, and ICT. Second, it noted quadrant differences in scheduling, activities, and commitment, but uniformity in funding and ICT issues. Third, it identified common mitigation measures, with timeliness agreements widely used and reward systems less frequent. Overall, the findings shed light on challenges and strategies that support effective LAC implementation across diverse contexts.

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