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PERCEIVED EFFECTS OF LEARNING ACTION CELL (LAC) SESSIONS ON THE PEDAGOGICAL SKILLS OF PUBLIC SCHOOL TEACHERS

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Abstract: *The development of different teaching strategies has led research studies to focus on collaboration practices that promote students' academic achievement. Hence, using descriptive-correlational, researcher determined the influence of LAC Sessions on the pedagogical content knowledge of public-school teachers through a parametric statistical test of Pearson's r while to understand the variability of the responses about the perceived effects of LAC sessions and respondents pedagogical content knowledge as it was categorized in terms of respondents' profile – an analysis of variance and independent t-test was used. Results revealed that the perceived effects of Learning Action Cell Session in terms of goals and objectives, strategies for implementation, and perceived impact are significantly different in terms of respondents' years in service. Likewise, pedagogical and content knowledge also vary in terms of respondents' years in service. Moreover, the variables of the perceived effect of the LAC session have a significantly high positive correlation with the variables of Pedagogical Content Knowledge. This result suggests that pedagogical knowledge significantly influences teachers' perceptions of LAC sessions, and vice versa. This indicates that improved LAC session conduct is associated with better pedagogical content knowledge among respondents.*

Keywords*: Learning action cell sessions, pedagogical content skills, elementary teachers, descriptive-correlational method, Division of Balanga City*

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INTRODUCTION

The introduction of new teaching methods has prompted academics to focus on cooperative practices that enhance student achievement. Burton (2015) states that shared goals, efficacy, and positive dependence help teachers collaborate. These aspects of teacher cooperation may affect teacher learning and students' field-specific abilities and knowledge. Much research has revealed various elements affecting learning outcomes, but teacher engagement and shared feedback on student performance have a significant impact (Bjorklund et al., 2013). Teacher isolation prevents teacher interaction, which may affect pupils' academic performance. Bennion et al. (2022) corroborate this understanding by illustrating that new elementary teachers often find themselves unprepared and unsupported when working independently. Due to their inability to engage, teachers underperform and deliver unsatisfactory learning activities. However, a collaborative community has spurred many teachers to develop and construct instructional approaches professionally. Research shows that principal leadership directly affects teacher collaboration and indirectly affects student performance (Goddard et al., 2010). Improved principal leadership has led to more collaborative teachers, which may indicate better academic performance. Collaboration improves professional development and curriculum reform because teachers learn and own the change (Voogt et al., 2018). Collaboration affects teachers' learning outcomes in (pedagogical) topic knowledge and design knowledge and skills, as shown in curriculum design outputs and stakeholders' appreciation. This means that collaborative, focused, and curriculum-linked professional development improves teachers' knowledge and practice and promotes curricular change. Studies (Misko, Guthrie, & Waters, 2021; Ofem et al., 2021; Salleh & Sulaiman, 2020; Wrench & Paige, 2020) found that workplace cohesion improves teacher effectiveness. These studies produced information on improving teachers' classroom performance.
Teacher performance was favorably correlated with student achievement (Akram, 2019; Ambussaidi & Yang, 2019; Loyalka et al., 2019), raising educational standards. Research (Huang et al., 2019; Phytanza & Burhaein, 2020) showed that many factors can affect teachers' performance. This study

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found that internal and extrinsic motivators affect instructors' classroom effectiveness. Rey et al. (2016) suggest that fostering emotional intelligence among teachers can help mitigate stress and build better coping strategies, which can subsequently contribute to a decrease in burnout rates. Huang, Yin, and Lv (2019) found that intrinsic factors like teachers' well-being affect performance. Phytanza and Burhaein (2020) stressed that tenure, merits, certifications, and work incentives significantly impact teachers' performance. Hargreaves (2019) states that instructor collaboration improves performance. This 2019 article by Andy Hargreaves described his 30-year career in teacher cooperation. Hargreaves (2019) discussed artificial collegiality, professional capital, and collaborative professionalism. Recent studies (Chen et al., 2020; Mora-Ruano, 2019) found that teacher collaboration improves student performance. Mora-Ruano, Heine, and Gebhardt (2019) say teacher cooperation enhances the school community. Additionally, Baptista & Freire (2020) argue that strong collaborative practices lead to a transformation in teachers' beliefs and practices, fostering an environment where innovative approaches to instruction can thrive. Mora-Ruano et al. (2019) say teacher cooperation goes beyond teaching. The DepEd has established school-based professional learning groups for mentorship and collaboration. Annually, professional learning groups schedule Learning Action Cell (LAC) Sessions. LAC Sessions broaden instructors' pedagogical knowledge. These seminars may use outsourced workers as facilitators. The LAC Session updates educators and promotes staff collaboration. Prior studies (Louis et al., 2010) have shown that teacher cooperation in professional activities improved student achievement. In addition, Lara-Alecio et al. (2012) found that instructors' participation in group activities, such as teaching techniques, improved students' science and reading scores. Isolationism hinders teacher cooperation, skill sharing, and cooperative functioning, according to Benson (2011). Instructor isolationism hinders classroom cooperation. Some schools have tried to encourage teachers to work together to solve the issue of working together. Teamwork is essential for overcoming today's educational problems, according to Bajar et al. (2021). Collaboration involves working with others to achieve a goal while sharing information and resources, according to Lai (2011). Too few opportunities for teachers to collaborate prevented them from enhancing their teaching practices (de Jong et al., 2019). However, modern instructional innovations have transformed the profession. One revolutionary change is the universal recognition of professional learning communities and teacher partnerships as effective in improving educational practices and outcomes (Watson, 2014). Assistance in creating professional learning communities that encourage teacher cooperation improves school performance (Williams et al., 2012).

Quality education has driven national achievement. With rapid technological improvements, the gap between developed and poor countries in education quality is growing (Cruz, 2021). Small-scale educational disparities exist between high- and low-income families in developing nations like the Philippines. Addressing this issue requires careful academic planning across institutions. This will lead to mentoring programs and other methods to improve educators' teaching skills and education quality. Teacher cooperation is new; therefore, little is known about its effects on student achievement and teacher traits (Moolenaar et al., 2012). Most study focuses on how teacher cooperation influences student achievement. Thus, the current study analyzed the Learning Action Cell (LAC) Sessions, a school professional learning community program, to emphasize teacher collaboration. This study examined how public-school teachers participate in learning action cell (LAC) sessions and build pedagogical topic knowledge. The study also examined the variability of these factors based on respondents' responses.

FRAMEWORK

DepEd Order No. 35, s. 2016, titled "The Learning Action Cell (LAC) as a K to 12 Basic Education Program School-Based Continuing Professional Development Strategy for the

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Improvement of Teaching and Learning," asserts the DepEd's unwavering endorsement of ongoing professional development for its teaching staff. This endorsement is rooted in the principle of lifelong learning and the DepEd's dedication to nurturing the potential of teachers, with the ultimate goal of ensuring their success in the teaching profession. This can be accomplished by utilizing the school-based Learning and Assessment Community (LAC), a professional learning community for educators to enhance instructional methods and promote student academic success. The study's paradigm depicted the primary factors as the respondents' profile, the perceived impact of LAC Sessions, and the Pedagogical Content Knowledge of the teacher-respondents toward the improvement plan.

OBJECTIVES OF THE STUDY

This study was conducted to: (1) describe the learning action cell sessions in terms of goals and objectives, strategies for implementation, and perceived impact; (2) determine the pedagogical content knowledge of teachers; (3) analyze significant differences between the variables of respondents' perception of LAC sessions and variables of pedagogical content knowledge when grouped according to their profile; (4) discuss the significant relationships between the variables of respondents' perception of LAC sessions and pedagogical skills; and (5) propose an improvement plan for the implementation of learning action cells sessions.

METHODOLOGY

Research Design

A descriptive-correlational research approach was used for the investigation. The impact of the Learning Action Cell (LAC) Session factors on the variables of Pedagogical Content Knowledge Skills was investigated using this study design. According to Bueno (2019), descriptive-correlational design entails gathering information to respond to inquiries about the present status of the subject. To develop hypotheses that will be evaluated in experimental and quasi-experimental investigations, correlational study data are used (Sousa et al., 2017). (Park et al., 2021) investigated associations between autonomic nervous function and sudden sensorineural hearing loss, emphasizing the importance of understanding underlying mechanisms rather than merely accepting observed correlational patterns as evidence of direct causation.

Research Site

This study was conducted in District 1 of Balanga City.

Participants

The respondents for the study were selected using a stratified sample strategy in this quantitative research approach. Out of 186 elementary school teachers working in public schools, 126 agreed to take part in the survey.

Instrumentation

First, the researcher requested constructive comments and ideas from master teachers and school principals. Based on the views and suggestions of the experts and with the consent of the thesis adviser, the researcher made relevant adjustments to improve clarity and relevance. Furthermore, the internal consistency reliability of the questionnaire was tested using Cronbach's Alpha, while the internal criterion reliability and correlation strength were determined using covariance and regression analysis. Tukey's nonadditivity test was used if the questionnaire items were sufficient for the study. Moreover, the Shapiro-Wilk test was conducted to determine whether the data distribution was normal.

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Cronbach's Alpha of 0.995 indicates that the internal consistency reliability of the items in the questionnaire is excellent. Generally, the provided items in the questionnaire yield better internal consistency reliability than when a specific item is deleted. The Friedman's Chi-Square value of 0.000 at a 0.05 level of significance indicates a significant difference between the items provided in the questionnaire as viewed by the respondents. At the same time, Tukey's test for nonadditivity reveals that a value of 0.750 at a p-value of 0.387 indicates that test items are enough for each latent variable in the questionnaire. Furthermore, since the data sample does not meet the required number for the Kolmogorov-Smirnov Normality Test, the interpretation of the normality test for this questionnaire is focused on the Shapiro–Wilk.

Data Collection

The researcher approached the Balanga City Schools Division Office authorities for permission to perform this study. Through informed permission, the respondents were guided and given a thorough explanation of the study's objectives. Upon obtaining authorization, the researcher acquired comprehensive informed consent from the participants to deliver the questionnaire. The intention is for human participants to freely engage in research after being fully informed of the requirements for their participation and obtaining their consent before doing so. The researcher made sure that the research participants were anonymous and confidential.

Statistical Techniques

The encoded information from the researcher-made surveys was treated and analyzed using the Statistical Package for the Social Sciences (SPSS) tool. Specifically, the researcher described the data using frequency tables for the profiles of the respondents, weighted mean for describing LAC Sessions, and determining the pedagogical content skills of the teachers. At the same time, the study employed analysis of variance or the F-test to determine whether there was a significant difference in respondents' perception of the effects of LAC sessions and pedagogical skills, categorized in terms of their profile, except for their sex, which was tested using a t-test. Moreover, Pearson's r-test was used to determine the correlation between respondents' perception of the effects of LAC sessions and pedagogical content skills.

RESULTS AND DISCUSSION

Profile of the Teacher-Respondents

Most teachers have ages ranging from thirty to thirty-nine and forty to forty-nine, as denoted by a frequency of forty, representing 31.7 percent of the respondents. The respondents are primarily female, as indicated by a frequency of 115 (91.3 percent), compared with 11 male teachers, representing 8.7 percent. Regarding years of service in the public education system, the findings indicate that most teachers have served one to five years, with a frequency of forty-one or 32.5 percent. Likewise, in terms of teaching positions, most teachers are classified as Teacher III, with a frequency of fifty-four (42.9 percent). Furthermore, seventy-seven percent of the respondents have units in their master's program. These individuals agreed that most teachers persisted in their profession due to their enjoyment of the work or belief in its vital nature. Nevertheless, the general ambiance within their department and the university was positively characterized. They experienced minimal institutional coercion to retire and expressed no intentions of doing so (Dorfman, 2010). Additionally, Davis & Robinson (1991) explored consciousness regarding gender inequality in different cultural contexts, illustrating how education interacts with societal views on gender roles. As mentioned in the survey

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by Ewetan (2015), a teacher's teaching experience has a substantial positive link with students' academic achievement. This may suggest the necessity for teacher training. Despite the crucial role teachers play in students' education, there remains a lack of consensus on the validity of the correlation between teacher qualification indicators and higher academic success among students. According to Lee's research (2020), students who had numerous highly skilled teachers as instructors were more likely to achieve higher-level education.

Learning Action Cells

In general, a grand weighted mean of 3.39 indicates that teachers strongly agree that LAC sessions influence the setting of goals and objectives. Likewise, a general weighted mean of 3.31 indicates that the teachers strongly agree that LAC sessions affect implementation strategies. Lastly, a general weighted mean of 3.39 indicates that teachers strongly agree that they perceived LAC sessions to have an impact. A significant obstacle in supporting teachers to enhance their instructional methods, enhance student learning outcomes, and cultivate enduring transformations in school culture is the imperative for teachers to engage in collaborative and constructive collegial interactions (de Jong et al., 2019). The findings demonstrate that the Learning Action Cell (LAC), which improves teaching-learning environments, retains instructors' knowledge, and inspires them to advance as teachers in the current day, is crucial to improving the teaching and learning process (Madriaga, 2021). Influential teacher leaders regularly gather their team members to ensure everyone contributes to the organization's overall aim. To meet the rigorous needs of supporting students, educators must evaluate, enhance, and reflect on their current instructional methods. Educators are increasingly utilizing technology to create interactive and engaging learning experiences, driven by advancements in cost-effectiveness and suitability (Major & Watson, 2017).

Perceived Pedagogical Content Skills of the Teachers

Overall, a general weighted mean of 3.47 indicates that teachers strongly agree they possess content knowledge skills. Meanwhile, a general weighted mean of 3.36 indicates that teachers strongly agree that they possess pedagogical knowledge skills. Research by Keller et al. (2016) emphasizes that PCK is essential for teachers to develop effective curricula that integrate technology and create meaningful learning experiences. Effective teachers who are well-versed in both the content they teach and the methods of delivery are more likely to foster student engagement and understanding. Moreover, it reveals that teachers' awareness of their pedagogical knowledge and content knowledge indicates their ability to teach a particular lesson using an appropriate teaching strategy, as denoted by their pedagogical content knowledge (Aina et al., 2015).

Analysis of Variance and T–Test Results on the respondents' perception of LAC sessions and pedagogical skills when grouped according to their profile.

The effect of LAC sessions on goals and objectives, strategy implementation, and perceived impact does not significantly differ when grouped by teacher's age, sex, teaching position, and highest educational attainment. The effect of LAC sessions significantly differs in terms of years in service. The study by Goddard et al. (2015) shows that the development of instructional leadership, which can be described by the ability of teachers to set goals and objectives, implement the task, and perceive project impact, varies in terms of their years of teaching service supports this finding on the significant difference on the variables of perceived effects of LAC sessions in terms of years in service. Contrary to the result, collaboration through learning action cells is significantly different in terms of sex, as

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pointed out in the study of Gershenson et al. (2016). The study revealed a gap between the collaborative efforts of male and female teachers.

Further, the content knowledge and pedagogical knowledge do not significantly differ in terms of age, sex, and teaching position. The content knowledge and pedagogical knowledge vary considerably in terms of educational attainment and years in service. The result contradicts the findings presented in the study by Mailizar et al. (2021), which stated that pedagogical content knowledge differs significantly in terms of educational attainment and sex, but not in terms of years in service. This result suggests that the disparity in the attributes of the respondents surveyed in the study may limit the generalizability of the results. The relationship between teachers' PCK and student achievement is further emphasized in the study by Montilla et al. (2023), which indicates that educators with high levels of pedagogical knowledge are more effective in fostering student learning and motivation. The differences in pedagogical content among instructors according to years of service suggest that teachers acquire knowledge of the content and pedagogy of a particular subject throughout their teaching careers.

Relationship between respondents' perception of LAC sessions and pedagogical skills.

The findings indicate a high positive and significant relationship between content knowledge, pedagogical knowledge, and the perceived effect of LAC sessions on goals and objectives, implementation strategies, and perceived impact. This finding suggests that teachers' perceptions of the impact of LAC sessions are highly influenced by pedagogical expertise and vice versa. Overall, the findings indicate that teachers' pedagogical topic knowledge abilities have a highly substantial positive link to their evaluation of the impact of LAC sessions. The findings are consistent with the research conducted by Vangrieken et al. (2017), which highlights the substantial influence of the teacher's community on their professional growth. The findings suggest that the presence of a learning action cell designed to simulate a teaching community positively impacts the professional development of instructors, particularly in terms of their understanding of subject matter and instructional strategies. Furthermore, implementing action research, which affects teachers' self-efficacy resulting from a learning action cell, promotes the growth and improvement of instructors (Cabaroglu, 2014).

School Improvement Plan in the Implementation of Learning Action Cell Sessions

The study reveals significant details on the influence of LAC sessions on teacher development in their pedagogical content knowledge. Results also show that some aspects of LAC sessions' conduct and perceived impact, as well as respondents' pedagogical content knowledge, need improvement. In line with this, the researcher proposed an improvement plan. The improvement plan was developed to further enhance the implementation of learning action cell sessions and to encourage teacher development within the context of their pedagogical content knowledge. This improvement plan includes aligning goals and objectives with teachers' needs, careful implementation, and appropriate communication of LAC objectives and goals among teachers. Moreover, this improvement conveys comprehensive planning and implementation, creating a professional community that inspires teachers to perform and improve through the collegial discourse of knowledge and sharing of experiences. Furthermore, the improvement plan highlights plans for improvement through focus group discussions and collegial discourse on content knowledge, focusing on its integration into the world and across disciplines. It also shares strategies for relaying, reaching out, and teaching content to learners. Improvement plans for LAC sessions are also grounded in their significant impact on teacher development, specifically within the constructs of pedagogical and content knowledge.

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CONCLUSION

The study concluded that most respondents are middle-aged, female, and hold the position of Teacher III, with 1-5 years of service and a master's degree. Meanwhile, the respondents generally strongly agreed on the indicators of Learning Action Cells (LAC) and pedagogical skills. In addition, the respondents' perceptions of LAC sessions and pedagogical skills do not significantly differ when grouped by age, sex, teaching position, or highest educational attainment, but do differ significantly by years in service. Moreover, the study revealed a significantly high positive correlation between perceptions of LAC sessions and pedagogical skills. Lastly, a school improvement plan is needed to further enhance the implementation of learning action cell sessions and to encourage teacher development within the context of their pedagogical content knowledge.

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