

Learning Action Cell Practices on Science Teachers' Behavioral Competence and Instructional Delivery

Andria Tapel Bronosa

Laguna State Polytechnic University Sta. Cruz Laguna 4009 PHILIPPINES

Email address: andria.bronosa@deped.gov.ph@gmail.com

Abstract— The main goal of this study is to examine the relationship between the implementation of Learning Action Cell (LAC) practices on science teachers' behavioral competence and instructional delivery in Calauan District public elementary schools. In particular, the study aims to determine the extent of LAC practices. The study also sought to assess the level of behavioral and instructional delivery of science teachers and to determine the significant relationship between LAC practices and the science teachers' behavioral competence and instructional delivery. The study employed descriptive-correlational research design. The data were collected through a five-point Likert scale researcher-made validated questionnaire to 110 science teachers handling Grades 4, 5, and 6 in the public elementary schools in Calauan during the school year 2025-2026. The statistical tools used to analyze the data were mean, standard deviation and Pearson correlation coefficient to find the relationship between the variables. The findings reveal that Learning Action Cell practices demonstrated very great extent across all dimensions, particularly in capacity building and knowledge sharing, which indicated that teachers actively engaged in collaborative learning, professional dialogue, and the exchange of instructional strategies. Results also show that science teachers' behavioral competence was verbally interpreted as very high in all domains, including self-management, professionalism and ethics, results focus, teamwork, service orientation, and innovation. In addition, Science teachers' instructional delivery is found to be very high level in terms of content knowledge and pedagogy, learning environment and diversity of learners, and curriculum planning with assessment and reporting. The results reveal a significant positive relationship between the implementation of Learning Action Cell practices and science teachers' behavioral competence and instructional delivery. Thus, the null hypotheses is accepted. This suggests that strong implementation of collaborative professional learning through LAC enhances teachers' instructional mastery, promotes inclusive learning environments, and strengthens curriculum planning and assessment practices. The study's findings led to the conclusion that Learning Action Cell practices are essential in enhancing the instructional delivery and professional competence of science teachers. The results highlight the importance of sustained collaborative professional development within schools. It is therefore recommended that school administrators strengthen the institutionalization of LAC sessions, provide adequate support and resources, and encourage active participation among teachers to further enhance teaching effectiveness and professional growth.

Keywords— Learning Action Cell, Teacher Competence, Instructional Delivery, Professional Development, Science Education.

I. INTRODUCTION

The Philippine basic education system continues to give importance to providing quality science instruction, especially

because there are persistent gaps in student achievement and teacher effectiveness. According to Nudalo, (2018), there are three characteristics of 21st century learners namely: The technological learner; The all-knowing learner; and the literate learner. The technological learners are called the “screen generation” because they are so much more visually oriented than any generation before them. The all-knowing learner, the 21st century learner knows ‘all’. The literate learner, good communication skills; adaptable and innovative; can easily solve complex problems. They are comfortable with using technology to extend their knowledge. Thus, modern society demands high quality teaching and learning from the teachers. Educators need to have a lot of knowledge and skills about both teaching and assessment practices.

Many teachers continue to have difficulty applying national frameworks like the Results-Based Performance Management System (RPMS) and the Philippine Professional Standards for Teachers (PPST) in their classrooms, despite the fact that these frameworks establish precise criteria for teacher growth. Science teachers, in particular face difficulties in delivering inquiry-based lessons, managing learners with different needs, and keeping up with continuous curriculum changes. As stated by Cabral (2019) the different challenges show the need for more focused professional learning approaches that truly help teachers improve their classroom instruction, not only comply with requirements. One way to strengthen the 21st century learning is to share among themselves the pedagogical practices of teachers through the LAC (Learning Action Cell) sessions. As provided in DepEd Order No. 35, s. 2016, Learning Action Cell (LAC). The learning action cell is a session conducted by a group of teachers who engage in collaborative learning sessions to solve common problems in school. These challenges may include learner diversity and student inclusion, content and pedagogy, assessment, and reporting, and 21st century skills and ICT integration. The DepEd envisioned these LAC Sessions as the school-based continuing professional development strategy for the improvement of teaching and learning.

LAC has been widely implemented in schools, most studies have only discussed its general benefits or the challenges in organizing it. There are still few studies that explore its specific impact on certain subject areas like science. Likewise, limited research has examined how the stages of LAC implementation—before, during, and after the sessions—lead to measurable improvements in teacher competence and instructional delivery. This lack of detailed

investigation leaves a gap in understanding how LAC can become a more effective and transformative tool for science teachers.

This study aimed to find how participation in LAC sessions helps improve the competence and instructional delivery of science teachers in public elementary schools in the Calauan District. It utilized both quantitative and qualitative methods to look into how collaborative planning, problem-solving, and the implementation of agreed actions during LAC sessions influence teacher performance. The study was anchored on the RPMS, PPST, and the Constructivist Spiral Model.

The results of this research are expected to help enhance LAC as a professional learning approach by identifying which aspects or stages contribute most to teacher development. Findings serve as a guide for master teachers and instructional leaders in planning more effective collaborative expertise sessions and in supporting school improvement programs. In the long run, this study may contribute to improving the quality of science teaching by helping build a community of competent and empowered teachers.

1.1 Statement of the Problem

Problem/s which were addressed by the research

The study aimed to determine the effectiveness of LAC practices as support resources on science teachers' behavioral competence and instructional delivery in the third congressional district of Laguna. The results of the study shall be used as bases for the crafting of a proposed framework in conducting collaborative expertise sessions.

Specifically, this study answered the following questions.

1. What is the extent of learning action cell (LAC) practices as to:
 - 1.1 collaborative planning;
 - 1.2 collaborative problem solving; and
 - 1.3 collaborative action-implementation?
 - 1.4 capacity building;
 - 1.5 knowledge sharing?
2. What is the level of science teachers' behavioral competence in terms of:
 - 2.1 self-management;
 - 2.2 professionalism and ethics;
 - 2.3 results focus;
 - 2.4 teamwork;
 - 2.5 service orientation; and
 - 2.6 innovation?
3. What is the mean of level of science teachers' instructional delivery based on the indicators of the individual performance commitment and review in terms of:
 - 3.1 content knowledge and pedagogy;
 - 3.2 learning environment and diversity of learners; and
 - 3.3 curriculum planning and assessment and reporting?
4. Is there a significant relationship between learning action cell (LAC) practices and the science teachers' behavioral competence?

5. Is there significant relationship between learning action cell (LAC) practices and the science teachers' instructional delivery?

II. METHODOLOGY

The study employed descriptive-correlational research design. The data were collected through a five-point Likert scale researcher-made validated questionnaire to 110 science teachers handling Grades 4, 5, and 6 in the public elementary schools in Calauan during the school year 2025-2026. The statistical tools used to analyze the data were mean, standard deviation and Pearson correlation coefficient to find the relationship between the variables.

III. RESULTS AND DISCUSSION

This part deals with the presentation, analysis, and interpretation of data gathered to answer the sub-problem relative to the main problem of this study. This part discusses the findings of the study based on the questions.

The findings of this study aim to assess the relationship between the implementation of Learning Action Cell (LAC) practices on science teachers' behavioral competence and instructional delivery. The tables presented in this chapter provide a clear and organized presentation of the gathered data, highlighting trends, patterns, and relationships among the variables under investigation. Corresponding interpretations and analyses are included to explain the responses of the teacher-respondents regarding the implementation of LAC practices and their influence on professional competence and instructional delivery.

Extent of Learning Action Cell (LAC) Practices

In this study, the Extent of Learning Action Cell (LAC) Practices refers to Collaborative Planning, Collaborative Problem Solving, Collaborative Action-Implementation, Capacity Building and Knowledge Sharing. These indicators were then used to assess the level of collaboration, professional engagement, and shared learning experiences among teachers through LAC practices. The results provide a broad overview of the extent of LAC practices across each identified area.

The Extent of Learning Action Cell (LAC) Practices is revealed in the following table, which shows the statement, mean, standard deviation, remarks, and verbal interpretation.

Table 1 shows the extent of Learning Action Cell (LAC) practices in terms of collaborative planning. It highlights how teachers engage in joint planning of lessons and sharing of instructional strategies.

Meanwhile, respondents Agree that LAC practices support teachers in applying shared instructional resources and best practices during planning ($M = 4.62$, $SD = 0.49$) and help teachers collaboratively address challenges in lesson delivery and curriculum implementation ($M = 4.63$, $SD = 0.49$), both interpreted as highly practiced.

The results reveal that respondents perceive collaborative planning as practiced to a Very Great Extent, as reflected in the weighted mean of 4.70 ($SD = 0.46$). This indicates that science teachers consistently engage in collaborative planning

practices within their schools. The highest mean score was obtained by the statement, “The LAC practices in our school enable teachers to identify regular opportunities for collaboratively planning lessons and instructional activities” (M = 4.75, SD = 0.43), which was verbally interpreted as Strongly Agree. This indicates that respondents consistently perceived LAC sessions as providing structured and scheduled spaces where joint lesson planning becomes a routine part of instructional preparation.

Table 1. Extent of Learning Action Cell (LAC) Practices in terms of Collaborative Planning

Statement	Mean	SD	Remarks
The LAC practices in our school...			
...enable teachers to identify regular opportunities for collaboratively planning lessons and instructional activities	4.75	0.43	Strongly Agree
...encourage teachers to work together in aligning lesson objectives and teaching strategies.	4.73	0.45	Strongly Agree
...support teachers to apply shared instructional resources and best practices during planning	4.62	0.49	Agree
...help teachers collaboratively address challenges in lesson delivery and curriculum implementation	4.63	0.49	Agree
...require teachers to evaluate the clarity and usefulness of the collaborative planning structure or agenda	4.75	0.43	Strongly Agree
Weighted Mean	4.70		
SD	0.46		
Verbal Interpretation			Very Great Extent

This was followed by the statement, “The LAC practices in our school require teachers to evaluate the clarity and usefulness of the collaborative planning structure or agenda” (M = 4.75, SD = 0.43), also interpreted as Strongly Agree. This suggests that the collaborative planning agenda within LAC sessions is not only implemented but is also clearly understood and deemed necessary by the science teachers.

The next statement with a high mean was, “The LAC practices in our school encourage teachers to work together in aligning lesson objectives and teaching strategies” (M = 4.73, SD = 0.45), likewise interpreted as Strongly Agree. This emphasizes that alignment of instructional goals and methods is a key collaborative output of the LAC process.

On the other hand, the statements “help teachers collaboratively address challenges in lesson delivery and curriculum implementation” (M = 4.63, SD = 0.49) and “support teachers to apply shared instructional resources and best practices during planning” (M = 4.62, SD = 0.49), both obtained lower but still high ratings, interpreted as Agree. This implies that while collaborative problem-solving and resource-sharing occur regularly, these areas present opportunities for further strengthening. Overall, the data show that Collaborative Planning within LAC process is well-established, consistently implemented and strongly valued by the respondents.

Table 2 shows the extent of Learning Action Cell (LAC) practices in terms of collaborative problem solving. This section highlights how science teachers engage in identifying instructional concerns, organizing possible solutions, and

collaboratively addressing challenges encountered in science teaching

Table 2. Extent of Learning Action Cell (LAC) Practices in terms of Collaborative Problem Solving

Statement	MEAN	SD	REMARKS
The LAC practices in our school...			
...engage teachers in the identification of teaching and learning challenges encountered in their classrooms	4.69	0.46	Strongly Agree
...guide teachers to work together in analyzing the root causes of instructional problems	4.75	0.43	Strongly Agree
...provide avenues for teachers to compare, examine, and refine possible solutions to learning issues.	4.65	0.48	Strongly Agree
...encourage teachers in developing joint action plans to solve classroom challenges	4.74	0.44	Strongly Agree
...promote open discussion and reflection on the effectiveness of solutions to teaching and learning problems	4.78	0.41	Strongly Agree
Weighted Mean	4.72		
SD	0.45		
Verbal Interpretation			Very Great Extent

Table 2 presents the Extent of Learning Action Cell (LAC) Practices in terms of Collaborative Problem Solving. The overall weighted mean of 4.72 (SD = 0.45) indicates that respondents perceived these practices as Very Great Extent. The statement with the highest mean was “promote open discussion and reflection on the effectiveness of solutions to teaching and learning problems” (M = 4.78, SD = 0.41), interpreted as Strongly Agree. This result shows that respondents highly value reflective dialogue, a key mechanism through which teachers collectively evaluate and refine instructional solutions during LAC sessions.

This was followed by the statement “guide teachers to work together in analyzing the root causes of instructional problems” (M = 4.75, SD = 0.43), also interpreted as Strongly Agree. This indicates that respondents recognize collaborative root-cause analysis as an essential component of instructional improvement, demonstrating that LAC sessions help science teachers deeply examine instructional issues.

The third highest statement was “encourage teachers in developing joint action plans to solve classroom challenges” (M = 4.74, SD = 0.44), likewise verbally interpreted as Strongly Agree. This suggests that LAC practices successfully provide opportunities for teachers to co-develop and strategize concrete actions to address instructional concerns.

The statement “engage teachers in the identification of teaching and learning challenges encountered in their classrooms” (M = 4.69, SD = 0.46) also received a Strongly Agree rating, reflecting how teachers consistently recognize LAC sessions as a venue to express and clarify the issues they encounter.

Lastly, the statement “provide avenues for teachers to compare, examine, and refine possible solutions to learning issues” (M = 4.65, SD = 0.48) received the lowest mean among the items but still fell under Strongly Agree, indicating that collaborative solution-generation and refinement remain integral to LAC but may need strengthening compared to other components.

Thus, the respondents consistently perceived Collaborative Problem-Solving practices within LAC as highly evident, structured, and beneficial in addressing instructional challenges.

Table 3 shows the Extent of Learning Action Cell (LAC) Practices in terms of Collaborative Action-Implementation. This section highlights how science teachers collectively apply, monitor, and evaluate instructional strategies and interventions developed during LAC sessions. It emphasizes the teachers' active participation on classroom practices.

Table 3. Extent of Learning Action Cell (LAC) Practices in terms of Collaborative Action-Implementation

Statement	MEAN	SD	REMARKS
The LAC practices in our school...			
...assist teachers in carrying out agreed instructional strategies and interventions discussed during LAC meetings.	4.67	0.47	Strongly Agree
...coordinate collaborative efforts in the implementation of classroom activities and projects.	4.77	0.42	Strongly Agree
...engage teachers to evaluate the effectiveness of jointly implemented strategies	4.64	0.48	Agree
...facilitate sessions where teachers share and interpret results and experiences after collaborative actions.	4.59	0.49	Strongly Agree
...include follow-up discussions to evaluate the effectiveness of jointly implemented strategies.	4.77	0.42	Strongly Agree
Weighted Mean	4.69		
SD	0.46		
Verbal Interpretation			Very Great Extent

Table 3 presents the Extent of Learning Action Cell (LAC) Practices in terms of Collaborative Action-Implementation. The overall weighted mean of 4.69 (SD = 0.46) indicates that these practices are Very Great Extent among the respondents.

The highest mean scores were obtained by two statements: (1) “coordinate collaborative efforts in the implementation of classroom activities and projects” (M = 4.77, SD = 0.42), and (2) “include follow-up discussions to evaluate the effectiveness of jointly implemented strategies” (M = 4.77, SD = 0.42), both interpreted as Strongly Agree. These results highlight that LAC sessions are perceived as strong mechanisms for organized, team-based implementation of instructional initiatives, as well as for facilitating structured follow-up discussions to assess action outcomes. The next highest statement was “assist teachers in carrying out agreed instructional strategies and interventions discussed during LAC meetings” (M = 4.67, SD = 0.47), also interpreted as Strongly Agree. This implies that LAC sessions effectively support teachers in translating collaboratively developed plans into classroom practice.

This was followed by the statement “engage teachers to evaluate the effectiveness of jointly implemented strategies” (M = 4.64, SD = 0.48), interpreted as Agree. Although still high, this suggests that evaluation practices are present but may benefit from strengthened consistency and deeper reflective analysis among teachers.

The lowest mean was obtained by the statement “facilitate sessions where teachers share and interpret results and

experiences after collaborative actions” (M = 4.59, SD = 0.49), interpreted as Strongly Agree. Despite being the least rated, the score shows that reflective sharing sessions remain an important but slightly less emphasized practice compared with implementation-focused activities.

Table 4 shows the extent of Learning Action Cell (LAC) practices in terms of capacity building. This section highlights how LAC sessions contribute to the enhancement of science teachers' knowledge, skills, and professional competencies through continuous collaborative engagement.

Table 4. Extent of Learning Action Cell (LAC) Practices in terms of Capacity Building

Statement	MEAN	SD	REMARKS
The LAC practices in our school...			
...organize structured learning activities that develop teachers' pedagogical knowledge and skills.	4.99	0.10	Strongly Agree
...introduce innovative strategies that enable teachers to apply new approaches in classroom instruction.	4.91	0.29	Strongly Agree
...support teachers in developing professional competencies aligned with the Philippine Professional Standards for Teachers (PPST).	4.87	0.33	Agree
...encourage teachers to analyze their own instructional practices through guided reflection.	4.96	0.19	Strongly Agree
...facilitate training on the integration of technology and other resources to enrich teaching and learning.	5.00	0.00	Agree
Weighted Mean	4.95		
SD	0.22		
Verbal Interpretation			Very Great Extent

enrich teaching and learning” (M = 5.00, SD = 0.00), interpreted as Agree. The perfect mean suggests that respondents consistently recognize that LAC sessions provide opportunities for technology integration training, although the verbal interpretation (Agree) shows that teachers may still desire more depth or frequency in this type of training. This was closely followed by “organize structured learning activities that develop teachers' pedagogical knowledge and skills” (M = 4.99, SD = 0.10), interpreted as Strongly Agree. Through systematic learning activities, LACs act as organized spaces for strengthening instructors' pedagogical abilities, according to this.

The next highest statement, “encourage teachers to analyze their own instructional practices through guided reflection” (M = 4.96, SD = 0.19), also received a Strongly Agree interpretation. This highlights the value teachers place on reflective practices as essential components of their professional growth within LAC sessions.

The statement “introduce innovative strategies that enable teachers to apply new approaches in classroom instruction” garnered a mean of 4.91 (SD = 0.29), likewise interpreted as Strongly Agree, indicating that LACs serve as an avenue for exposure to and application of innovative instructional strategies.

Finally, the statement “support teachers in developing professional competencies aligned with the Philippine Professional Standards for Teachers (PPST)” had the lowest

mean ($M = 4.87$, $SD = 0.33$), interpreted as Agree. While still high, this suggests that alignment with PPST is evident but perceived as slightly less emphasized compared to other capacity-building activities. Results demonstrate that capacity-building initiatives within LAC are strongly evident, particularly in technology integration, structured training, reflective practice, and innovation. Hence, the strong ratings across all indicators confirm the critical role of LAC in strengthening teacher competencies, enhancing instructional quality, and supporting continuous professional development

Table 5 shows the extent of Learning Action Cell (LAC) practices in terms of knowledge sharing. This section discusses how LAC sessions allow science teachers to share ideas, teaching techniques, experiences, and best practices in order to improve their professional competence and instructional delivery

Table 5. Extent of Learning Action Cell (LAC) Practices in terms of Knowledge Sharing

Statement	MEAN	SD	REMARKS
The LAC practices in our school...			
...create venues where teachers share and deepen pedagogical knowledge and skills gained from practice and training.	4.97	0.16	Strongly Agree
...facilitate continuous professional development by introducing innovative teaching strategies and approaches.	4.91	0.32	Strongly Agree
...encourage teachers to share knowledge, experiences, and best practices to improve instructional delivery.	4.85	0.36	Strongly Agree
...promote collaborative discussions that allow teachers to interpret emerging trends and educational research.	4.92	0.31	Strongly Agree
...strengthen teachers' ability to integrate technology and other resources into teaching through peer demonstrations and sharing.	4.99	0.10	Strongly Agree
Weighted Mean	4.93		
SD	0.27		
Verbal Interpretation	Very Great Extent		

Table 5 presents the Extent of Learning Action Cell (LAC) Practices in terms of Knowledge Sharing. The data reveal an overall weighted mean of 4.93 ($SD = 0.27$), verbally interpreted as Very Great Extent, indicating that knowledge sharing is deeply embedded in the LAC culture of the respondents' schools.

The highest mean score was obtained by the statement "strengthen teachers' ability to integrate technology and other resources into teaching through peer demonstrations and sharing" ($M = 4.99$, $SD = 0.10$), interpreted as Strongly Agree. This signifies that respondent greatly value peer-led technology demonstrations and resource sharing, reflecting a strong collaborative approach to enhancing digital competence. Closely following this was the statement "create venues where teachers share and deepen pedagogical knowledge and skills gained from practice and training" ($M = 4.97$, $SD = 0.16$), also interpreted as Strongly Agree. This indicates that LAC sessions are effective platforms for sharing practical teaching knowledge, strengthening teachers' pedagogical expertise.

The next highest statement, "promote collaborative discussions that allow teachers to interpret emerging trends and educational research" ($M = 4.92$, $SD = 0.31$), was likewise rated Strongly Agree. This suggests that LAC sessions facilitate informed discussions, enabling teachers to stay updated with current instructional trends. The statement "facilitate continuous professional development by introducing innovative teaching strategies and approaches" garnered a mean of 4.91 ($SD = 0.32$), interpreted as Strongly Agree. This shows that respondents recognize LAC as a venue for ongoing learning and exposure to innovative instructional approaches.

Lastly, the statement "encourage teachers to share knowledge, experiences, and best practices to improve instructional delivery" received the lowest mean ($M = 4.85$, $SD = 0.36$), yet still interpreted as Strongly Agree. Although slightly lower than the other indicators, the rating reflects that teacher-driven sharing remains a consistent and vital component of the LAC process. Overall, the findings demonstrate that knowledge sharing within LAC is highly practiced, particularly through peer-led demonstrations, collaborative discussions, and the exchange of instructional insights.

Level of Science Teachers' Behavioral Competence

In this study, the level of Science Teachers' Behavioral Competence refers to self-management, professionalism and ethics, results focus, teamwork, service orientation, and innovation. These indicators reflect the teachers' ability to manage responsibilities effectively, demonstrate ethical and professional conduct, work collaboratively with colleagues, remain committed to achieving educational goals, respond to learners' needs, and apply innovative practices in teaching science. The level of Science Teachers' Behavioral Competence is shown in the following table, which shows the statement, mean, standard deviation, remarks and verbal interpretation.

The level of Science Teachers' Behavioral Competence in terms of self-management is very high, as reflected in the weighted mean of 4.91 ($SD = 0.29$), verbally interpreted as Always. This indicates that respondents consistently manifest self-management behaviors in their professional practice. Science teachers Strongly Agree that they set personal goals and professional development directions based on identified needs ($M = 4.95$, $SD = 0.23$), suggesting that they demonstrate initiative in identifying areas for growth and pursuing continuous professional development. Likewise, respondents Strongly Agree that they set high-quality, challenging, yet realistic goals for themselves and others ($M = 4.95$, $SD = 0.23$), reflecting a strong commitment to excellence, accountability, and purposeful goal setting. This indicates that the respondents consistently maintain high standards in their professional practice while ensuring that objectives remain achievable and aligned with their roles. It further suggests a strong sense of responsibility in promoting continuous improvement

Table 6 presents the level of science teachers' behavioral competence in terms of self-management. This section

highlights the teachers’ ability to effectively manage their responsibilities, time, emotions, and professional tasks in the teaching-learning process.

Table 6. Level of Science Teachers’ Behavioral Competence in terms of Self-Management

Statement	MEAN	SD	REMARKS
As a teacher I			
...set personal goals and professional development directions based on identified needs.	4.95	0.23	Always
...align personal actions and behaviors with organizational goals and values.	4.82	0.39	Always
...demonstrate emotional maturity and enthusiasm when pursuing challenging professional goals.	4.94	0.25	Always
...organize work tasks and schedules using appropriate tools in order to accomplish assigned goal.	4.88	0.32	Always
...set high quality, challenging, realistic goals for self and others.	4.95	0.23	Always
Weighted Mean	4.91		
SD	0.29		
Verbal Interpretation	Very High		

Table 6 presents the level of Science Teachers’ Behavioral Competence in terms of Self-Management. The data yielded an overall weighted mean of 4.91 (SD = 0.29), interpreted as Very High, indicating that respondents consistently exhibit strong self-management behaviors in performing their professional roles.

The highest mean scores were obtained by two statements: (1) “set personal goals and professional development directions based on identified needs” (M = 4.95, SD = 0.23), and (2) “set high quality, challenging, realistic goals for self and others” (M = 4.95, SD = 0.23), both verbally interpreted as Always. These findings reveal that respondents demonstrate clarity in their professional direction and proactively set high-level goals aligned with their development needs.

The next highest statement was “demonstrate emotional maturity and enthusiasm when pursuing challenging professional goals” (M = 4.94, SD = 0.25), also interpreted as Strongly Agree. This indicates that respondents consistently maintain composure, motivation, and resilience when faced with demanding tasks which are key components of effective self-management.

This was followed by the statement “organize work tasks and schedules using appropriate tools in order to accomplish assigned goals” (M = 4.88, SD = 0.32), interpreted as Agree. While still high, the score suggests that although most teachers use planning tools effectively, this area may benefit from further strengthening to ensure consistent task organization and time management. The lowest mean was obtained by “align personal actions and behaviors with organizational goals and values” (M = 4.82, SD = 0.39), interpreted as Always. Despite being the lowest rated, it still demonstrates that teachers generally align their professional behavior with school goals, though alignment may vary depending on individual contexts and leadership dynamics.

Table 7 shows the level of Science Teachers’ Behavioral Competence in terms of professionalism and ethics. This section highlights the teachers’ adherence to professional

standards and ethical practices. It further reflects their commitment to integrity, accountability, and respect in carrying out their teaching responsibilities.

Table 7. Level of Science Teachers’ Behavioral Competence in terms of Professionalism and Ethics

Statement	MEAN	SD	REMARKS
As a teacher I			
...demonstrate values and behaviors prescribed in the Code of Conduct and Ethical Standards for Public Officials and Employees (RA 6713)..	4.95	0.23	Always
...consider the impact of my actions and decisions when practicing ethical and professional behavior.	4.89	0.31	Always
...maintain a professional image through punctuality, reliability, appropriate grooming, and effective communication.	4.92	0.28	Always
...show willingness to make personal sacrifices in order to meet organizational needs.	4.94	0.25	Always
...respond to organizational demands with urgency and responsibility in support of system improvement and colleagues’ effectiveness.	4.95	0.23	Always
Weighted Mean	4.93		
SD	0.26		
Verbal Interpretation	Very High		

Table 7 presents the level of Science Teachers’ Behavioral Competence in terms of Professionalism and Ethics. The computed weighted mean of 4.93 (SD = 0.26) is verbally interpreted as Very High, indicating that respondents are exhibiting ethical and professional behaviors aligned with institutional standards.

Among the indicators, the highest mean scores were shared by two statements: (1) “demonstrate values and behaviors prescribed in the Code of Conduct and Ethical Standards for Public Officials and Employees (RA 6713)” (M = 4.95, SD = 0.23), and (2) “respond to organizational demands with urgency and responsibility in support of system improvement and colleagues’ effectiveness” (M = 4.95, SD = 0.23), both interpreted as Always. These scores highlight the respondents’ strong adherence to ethical norms, professional conduct, and institutional responsibilities. The statement “show willingness to make personal sacrifices in order to meet organizational needs” followed closely (M = 4.94, SD = 0.25), also interpreted as Always. This suggests that teachers consistently demonstrate dedication, prioritizing organizational goals when needed.

Likewise, respondents always practice how to “maintain a professional image through punctuality, reliability, appropriate grooming, and effective communication” (M = 4.92, SD = 0.28). This indicates that science teachers exercise professionalism in their day-to-day presence within the school environment. The lowest mean rating, though still high, was received by “consider the impact of my actions and decisions when practicing ethical and professional behavior” (M = 4.89, SD = 0.31), interpreted as Always. This reflects that teacher generally practice reflective ethical judgment, though it may require continued reinforcement to ensure consistent decision-making across varied contexts. Overall, the high

scores across all indicators confirm that the respondents exhibit strong ethical foundations and maintain professionalism that aligns with the expectations outlined in national policy frameworks such as RA 6713 and professional standards upheld by the Department of Education.

Table 8 shows the level of Science Teachers' Behavioral Competence in terms of results focus. This section highlights the teachers' commitment to achieving educational goals, improving learner performance, and delivering quality instruction in science education. It also reflects teachers' ability to accomplish tasks efficiently, meet professional expectations.

Table 8. Level of Science Teachers' Behavioral Competence in terms of Results Focus

Statement	MEAN	SD	REMARKS
As a teacher, I...			
...analyze the root causes of work-related problems and propose practical solutions.	4.95	0.21	Always
...demonstrate flexible and creative thinking when improving productivity and work outcomes.	4.88	0.32	Always
...minimize errors and rework by using effective work methods that prioritize organizational goals.	4.91	0.29	Always
...transform creative ideas into concrete actions that improve school or unit performance.	4.95	0.21	Always
...reflect on inefficiencies and seek better ways of achieving set goals	4.95	0.21	Always
Weighted Mean	4.93		
SD	0.25		
Verbal Interpretation			Very High

Table 8 presents the level of Science Teachers' Behavioral Competence in terms of Results Focus. The computed weighted mean of 4.93 with a standard deviation of 0.25 is verbally interpreted as Very High, indicating that the respondents are demonstrating behaviors that prioritize organizational outcomes and continuous improvement.

The highest mean scores ($M = 4.95$, $SD = 0.21$) were obtained by three statements: (1) "analyze the root causes of work-related problems and propose practical solutions," (2) "transform creative ideas into concrete actions that improve school or unit performance," and (3) "reflect on inefficiencies and seek better ways of achieving set goals." All three indicators were interpreted as Always, reflecting that the respondents consistently demonstrate strong analytical abilities, solution-orientation, and reflective practice aimed at strengthening organizational results.

The statement "minimize errors and rework by using effective work methods that prioritize organizational goals" followed with a high mean of 4.91 ($SD = 0.29$), interpreted as Always. This suggests that respondents consistently apply systematic and efficient approaches in performing tasks to ensure accuracy and high-quality outputs. Finally, the statement "demonstrate flexible and creative thinking when improving productivity and work outcomes" obtained the lowest mean ($M = 4.88$, $SD = 0.32$), although still interpreted as Always. This indicates that while teachers exhibit high levels of flexibility and creativity, these competencies may still vary across individuals or contexts. Overall, the results

confirm that science teachers in the study display strong results-oriented behaviors, consistently striving to achieve work-related goals, minimize inefficiencies, and translate ideas into concrete outputs.

Table 9 shows the level of Science Teachers' Behavioral Competence in terms of teamwork. This section highlights the teachers' ability to work collaboratively with colleagues, school heads, and other stakeholders in achieving common educational goals.

Table 9. Level of Science Teachers' Behavioral Competence in terms of Teamwork

Teamwork	MEAN	SD	REMARKS
As a teacher I...			
...contribute actively and responsively to assigned team tasks.	4.89	0.31	Always
...promote collaboration and removes barrier to teamwork and goal accomplishment across the organization.	4.95	0.23	Always
...apply negotiation strategies to arrive at mutually beneficial agreements.	4.93	0.29	Always
...drive consensus and team ownership of decisions.	4.93	0.26	Always
...collaborate constructively with colleagues and partner organizations to achieve institutional goals.	4.93	0.26	Always
Weighted Mean	4.92		
SD	0.27		
Verbal Interpretation			Very High

Table 9 presents the level of Science Teachers' Behavioral Competence in terms of Teamwork. The overall weighted mean of 4.92 ($SD = 0.27$) is verbally interpreted as Very High, indicating that the respondents are demonstrating teamwork behaviors essential to effective school operations and organizational collaboration.

The highest mean score was obtained by the statement "promote collaboration and remove barriers to teamwork and goal accomplishment across the organization" ($M = 4.95$, $SD = 0.23$), interpreted as Always. This result indicates that respondents consistently foster an inclusive collaborative environment and help eliminate obstacles that hinder team productivity.

The statements "apply negotiation strategies to arrive at mutually beneficial agreements" ($M = 4.93$, $SD = 0.29$), "drive consensus and team ownership of decisions" ($M = 4.93$, $SD = 0.26$), and "collaborate constructively with colleagues and partner organizations to achieve institutional goals" ($M = 4.93$, $SD = 0.26$) followed closely, interpreted as Always. These findings confirm that teachers are highly capable of facilitating agreement, strengthening team cohesion, and working both within and beyond the school to realize shared objectives.

The lowest-rated statement was "contribute actively and responsively to assigned team tasks" ($M = 4.89$, $SD = 0.31$), though still interpreted as Always. This suggests consistently strong participation, with minor variations possibly attributed to differences in workload, scheduling constraints, or group dynamics.

The high scores across all indicators demonstrate that teamwork is a well-developed behavioral competency among

the respondents, characterized by active participation, negotiation, collaborative decision-making, and organizational cooperation.

Table 10 shows the level of Science Teachers' Behavioral Competence in terms of Service Orientation. This aspect emphasizes teachers' commitment to providing quality service, responding to learners' needs, and maintaining positive relationships with stakeholders in the educational community.

Table 10. Level of Science Teachers' Behavioral Competence in terms of Service Orientation

Statement	MEAN	SD	REMARKS
As a teacher, I....			
...explain organizational directions, issues, and concerns clearly to stakeholders.	4.92	0.28	Always
...take responsibility for resolving client-related or learner-related concerns.	4.94	0.25	Always
...initiate activities that promote advocacy for men and women empowerment.	4.93	0.26	Always
...participate in reviewing and updating the school's vision, mission, and strategies aligned with DepEd directions.	4.95	0.23	Always
...develop and implement service-improvement initiative that enhance service delivery through simplified procedures.	4.96	0.19	Always
Weighted Mean	4.94		
SD	0.24		
Verbal Interpretation			Very High

Table 10 presents the level of Science Teachers' Behavioral Competence in terms of Service Orientation. The overall weighted mean of 4.94 with a standard deviation of 0.24 is verbally interpreted as Very High, indicating that respondents are demonstrating service-oriented behaviors aligned with professional and organizational expectations.

The highest mean score was obtained by the statement "develop and implement service-improvement initiatives that enhance service delivery through simplified procedures" (M = 4.96, SD = 0.19), interpreted as Always. This indicates that respondents consistently innovate and streamline processes to improve the quality of services provided to learners and stakeholders.

This was followed by the statement "participate in reviewing and updating the school's vision, mission, and strategies aligned with DepEd directions" (M = 4.95, SD = 0.23), also interpreted as Always. This shows that teachers actively engage in institutional planning processes to ensure alignment with national priorities and educational reforms.

Similarly, the statement "take responsibility for resolving client-related or learner-related concerns" (M = 4.94, SD = 0.25) also interpreted as Always, reflecting teachers' consistent commitment to addressing learner needs and maintaining responsive service practices.

The statement "initiate activities that promote advocacy for men and women empowerment" (M = 4.93, SD = 0.26), likewise interpreted as Always, indicates that teachers contribute to gender-responsive initiatives and community empowerment efforts.

The lowest mean rating, "explain organizational directions, issues, and concerns clearly to stakeholders" (M = 4.92, SD =

0.28), although marginally lower, was still interpreted as Always. This suggests that communication with stakeholders is highly practiced, though variations in clarity or access to information may account for slightly lower perceptions.

Table 11 shows the level of Science Teachers' Behavioral Competence in terms of Service Innovation. This section highlights how teachers analyze work related problems and how they creatively accomplish assigned responsibilities.

Table 11. Level of Science Teachers' Behavioral Competence in terms of Service Innovation

Statement	MEAN	SD	REMARKS
As a teacher I.....			
...analyze the root causes of work-related problems and propose practical solutions.	4.86	0.34	Always
...demonstrate flexible and creative thinking when improving productivity and work outcomes.	4.94	0.25	Always
...inspire colleagues to generate original ideas and alternative solutions.	4.92	0.28	Always
...transform creative ideas into concrete actions that improves school performance.	4.94	0.25	Always
...utilize available resources creatively to accomplish assigned responsibilities.	4.99	0.10	Always
Weighted Mean	4.93		
SD	0.26		
Verbal Interpretation			Very High

Table 11 presents the level of Science Teachers' Behavioral Competence in terms of Service Innovation. The overall weighted mean of 4.93 with a standard deviation of 0.26, interpreted as Very High. This indicates that the respondents are always demonstrating innovative behaviors that enhance service quality and instructional efficiency.

The highest mean score was obtained by the statement "utilize available resources creatively to accomplish assigned responsibilities" (M = 4.99, SD = 0.10), interpreted as Always. This indicates that respondents consistently excel at maximizing limited resources through creative strategies—an essential competency given the resource constraints commonly experienced in public schools.

Two indicators followed with equally high mean scores: (1) "demonstrate flexible and creative thinking when improving productivity and work outcomes" (M = 4.94, SD = 0.25), and (2) "transform creative ideas into concrete actions that improve school performance" (M = 4.94, SD = 0.25), both interpreted as Always. These results show that teachers not only generate innovative ideas but also effectively convert them into actionable initiatives that positively impact school processes and learner outcomes.

The statement "inspire colleagues to generate original ideas and alternative solutions" received a mean of 4.92 (SD = 0.28), interpreted as Always, suggesting that teachers regularly foster a collaborative culture of creativity and idea-sharing within their professional communities. The lowest mean rating was obtained by the statement "analyze the root causes of work-related problems and propose practical solutions" (M = 4.86, SD = 0.34), interpreted as Strongly Agree. Although slightly lower, the score still signifies strong analytical and problem-solving skills, which contribute to

teachers’ overall capacity for innovation. Overall, all indicators reflect a highly competent group of science teachers who demonstrate resourcefulness, creativity, and leadership in developing innovative practices within their schools.

Level of Science Teachers’ Instructional Delivery Based on the Indicators of the Individual Performance Commitment and Review

In this study, the level of Science Teachers’ Instructional Delivery Based on the indicators of the Individual Performance Commitment and Review refers to content knowledge and pedagogy, learning environment and diversity of learners and curriculum planning and assessment and reporting. The level of Science Teachers’ Instructional Delivery Based on the indicators of the Individual Performance Commitment and Review is shown in the following table, which shows the mean, standard deviation, remarks and verbal interpretation.

Table 12 shows the level of Science Teachers’ Instructional Delivery in terms of Content Knowledge and Pedagogy. This section highlights teachers’ effective classroom instruction and research-based principles

Table 12. Level of Science Teachers’ Instructional Delivery Based on the Indicators of the Individual Performance Commitment and Review in terms of Content Knowledge and Pedagogy

Statement	MEAN	SD	REMARKS
As a teacher I...			
...apply content knowledge across and within learning areas to support effective classroom instruction.	4.95	0.23	Strongly Agree
...integrate research-based principles of teaching and learning into professional practice.	4.93	0.26	Strongly Agree
...demonstrate appropriate use of Mother Tongue, Filipino and English to support learner understanding.	4.96	0.19	Strongly Agree
...employ effective verbal and non-verbal communication strategies to promote learner participation, engagement, and achievement.	5.00	0.00	Strongly Agree
...integrate information and communication technology to enhance teaching and learning processes.	4.95	0.23	Strongly Agree
Weighted Mean	4.96		
SD	0.20		
Verbal Interpretation	Very High		

Table 12 presents the level of Science Teachers’ Instructional Delivery in terms of Content Knowledge and Pedagogy. The overall weighted mean of 4.96 (SD = 0.20) is verbally interpreted as Very High, indicating that respondents exhibit instructional delivery aligned with PPST standards and best pedagogical practices.

The highest mean score was obtained by the statement “employ effective verbal and non-verbal communication strategies to promote learner participation, engagement, and achievement” (M = 5.00, SD = 0.00), interpreted as Strongly Agree. This perfect score demonstrates the respondents’ consistent ability to use communication effectively as a tool for learning, engagement, and clarity.

The statement “demonstrate appropriate use of Mother Tongue, Filipino and English to support learner

understanding” followed with a high mean of 4.96 (SD = 0.19), also interpreted as Strongly Agree, showing teachers’ linguistic flexibility in facilitating comprehension across diverse learner groups. Two indicators tied with a mean of 4.95 (SD = 0.23), both interpreted as Strongly Agree: (1) “apply content knowledge across and within learning areas to support effective classroom instruction,” and (2) “integrate information and communication technology to enhance teaching and learning processes.” These scores reflect teachers’ strong mastery of subject matter and their ability to leverage ICT tools to create enriched learning environments.

Lastly, the statement “integrate research-based principles of teaching and learning into professional practice” obtained a mean of 4.93 (SD = 0.26), still interpreted as Strongly Agree, suggesting that while teachers use research-based strategies often, their application may vary depending on context, access to training, or familiarity with evidence-based practices. Overall, the consistently high ratings across indicators confirm that science teachers demonstrate strong content mastery, pedagogical competence, communication skill, and ICT integration.

Table 13 shows the level of Science Teachers’ Instructional Delivery in terms of Learning Environment and Diversity of Learners. This section highlights how teachers establish a safe learning environment and strategies on how to motivate learners.

Table 13. Level of Science Teachers’ Instructional Delivery Based on the Indicators of the Individual Performance Commitment and Review in terms of Learning Environment and Diversity of Learners

Statement	MEAN	SD	REMARKS
As a teacher I....			
...establish a safe and secure learning environment through consistent implementation of school policies and procedures.	4.95	0.21	Strongly Agree
...maintain classroom climate that promotes fairness, respect, and care for all learners.	4.88	0.32	Strongly Agree
...foster supportive learning conditions that encourage learners to participate, cooperate, and collaborate.	4.90	0.30	Strongly Agree
...implement strategies that motivate learners to work productively and take responsibility for their own learning.	4.87	0.33	Strongly Agree
...manage learner behavior constructively by applying positive and non-violent discipline.	5.00	0.00	Strongly Agree
Weighted Mean	4.92		
SD	0.27		
Verbal Interpretation	Very High		

Table 13 presents the level of Science Teachers’ Instructional Delivery in terms of Learning Environment and Diversity of Learners. The overall weighted mean of 4.92 with a standard deviation of 0.27 is verbally interpreted as Very High, indicating that respondents consistently demonstrate practices in creating inclusive, safe, and supportive learning environments.

The highest mean score was obtained by the statement “manage learner behavior constructively by applying positive and non-violent discipline” (M = 5.00, SD = 0.00), interpreted

as Strongly Agree. This perfect score highlights the respondents’ consistent engagement in non-violent, positive behavior management strategies that promote a conducive learning climate. This was followed by “establish a safe and secure learning environment through consistent implementation of school policies and procedures” (M = 4.95, SD = 0.21), also rated Strongly Agree. This result indicates that science teachers consistently ensure the safety and structure of the classroom through the fair and consistent application of rules and guidelines. The statement “foster supportive learning conditions that encourage learners to participate, cooperate, and collaborate” received a mean of 4.90 (SD = 0.30), interpreted as Strongly Agree, revealing teachers’ strong efforts to create environments that nurture engagement and collaboration—key components in science inquiry and group learning.

The next statement, “maintain classroom climate that promotes fairness, respect, and care for all learners” (M = 4.88, SD = 0.32), similarly interpreted as Strongly Agree, reflects teachers’ commitment to respect, fairness, and emotional safety within diverse classrooms.

The lowest mean rating was “implement strategies that motivate learners to work productively and take responsibility for their own learning” (M = 4.87, SD = 0.33), though still interpreted as Strongly Agree. This suggests that while teachers effectively encourage autonomy and responsibility among learners, slight variability may exist depending on student backgrounds and learning needs. Overall, these results confirm that the respondents consistently apply inclusive, supportive, and motivational practices essential in fostering positive learning environments.

Table 14 shows the level of Science Teachers’ Instructional Delivery in terms of Curriculum Planning and Assessment and Reporting. It highlights teachers’ competencies in designing inclusive and responsive learning programs, adapting culturally appropriate teaching strategies, utilizing assessment data to improve instruction, and selecting learning experiences that address learners’ diverse needs, strengths, and interests. These indicators were used to determine the extent to which Science teachers effectively deliver instruction and promote meaningful learning experiences among students. Furthermore, the results provide an overview of teachers’ instructional practices. They also serve as a basis for identifying strengths and areas for improvement in classroom instruction. In addition, the findings can guide targeted professional development initiatives.

Table 14 presents the level of Science Teachers’ Instructional Delivery in terms of Curriculum Planning and Assessment and Reporting. The overall weighted mean of 4.98 with a standard deviation of 0.13 is verbally interpreted as Very High, indicating that respondents demonstrate highly proficient in designing, implementing, and evaluating curriculum and assessment practices aligned with learner needs and institutional expectations. The highest mean score was obtained by the statement “select and design learning experiences that respond to learners’ gender needs, strengths, and interests” (M = 5.00, SD = 0.00), interpreted as Strongly

Agree. This perfect score suggests that respondents consistently design learning experiences that are gender-responsive, inclusive, and sensitive to learners.

Table 14. Level of Science Teachers’ Instructional Delivery Based on the Indicators of the Individual Performance Commitment and Review in terms of Curriculum Planning and Assessment and Reporting

Statement	MEAN	SD	REMARKS
As a teacher I			
...design and implement teaching strategies that respond to learners with disabilities, giftedness and talents.	4.90	0.30	Strongly Agree
...adapt culturally appropriate teaching strategies to address the needs of learners from indigenous groups.	4.95	0.21	Strongly Agree
...develop and implement learning programs that are relevant and responsive to the needs of all learners.	4.98	0.13	Strongly Agree
...analyze assessment data to guide the modification of teaching practices and learning programs	4.98	0.12	Strongly Agree
... select and design learning experiences that respond to learner’s gender needs, strengths, and interests.	5.00	0.00	Strongly Agree
Weighted Mean	4.98		
SD	0.12		
Verbal Interpretation			Very High

Two statements tied as the next highest indicators, each with a mean of 4.98 (SD = 0.13) and interpreted as Strongly Agree: (1) “develop and implement learning programs that are relevant and responsive to the needs of all learners,” and (2) “analyze assessment data to guide the modification of teaching practices and learning programs.” These results affirm that teachers effectively use assessment results to inform teaching decisions and ensure that instructional programs meet diverse learner needs.

The statement “adapt culturally appropriate teaching strategies to address the needs of learners from indigenous groups” received a mean of 4.95 (SD = 0.21), interpreted as Strongly Agree. This reflects teachers’ strong responsiveness to cultural diversity, particularly in addressing the learning needs of indigenous students. The lowest mean rating, though still very high, was “design and implement teaching strategies that respond to learners with disabilities, giftedness, and talents” (M = 4.90, SD = 0.30), interpreted as Strongly Agree. This indicates that while teachers regularly differentiate instruction to address varied learner classifications, further support may still enhance consistency in inclusive practices. The exceptionally high ratings across all indicators confirm that science teachers demonstrate strong curriculum planning, culturally responsive teaching, and assessment-driven instructional decision-making.

Significant Relationship between the Implementation of Learning Action Cell (LAC) Sessions and Science Teachers’ Behavioral Competence.

Table 15 shows the significant relationship between the implementation of Learning Action Cell (LAC) practices and Science Teachers’ Behavioral Competence. Specifically, it examines how the extent of participation and engagement in LAC sessions relates to teachers’ behavioral competencies in the teaching-learning process. The table also determines

whether the implementation of LAC sessions contributes to the enhancement of teachers’ professional behavior, collaboration, adaptability, and instructional practices. Furthermore, the results provide statistical evidence on the degree of relationship between the two variables using the appropriate measures of correlation and significance. This allows the study to assess whether improvements in teacher practices can be attributed to participation in LAC sessions. It also helps establish a clearer understanding of how collaborative professional development influences overall teaching effectiveness.

Table 15. Significant Relationship between the Implementation of Learning Action Cell (LAC) Sessions and Science Teachers’ Behavioral Competence

Implementation of Learning Action Cell (LAC) Practices		Science Teachers’ Behavioral Competence					
		SM	P&E	RF	BT	CSO	I
Collaborative Planning	Pearson Correlation	0.054	0.221*	0.011	0.125	0.003	0.021
	Sig. (2-tailed)	0.574	0.020	0.913	0.193	0.978	0.826
	N	110	110	110	110	110	110
Collaborative Problem Solving	Pearson Correlation	0.161	0.193*	0.097	0.018	0.023	0.054
	Sig. (2-tailed)	0.094	0.043	0.313	0.851	0.810	0.574
	N	110	110	110	110	110	110
Collaborative Action-Implementation	Pearson Correlation	0.213*	0.214*	0.098	0.002	0.032	0.121
	Sig. (2-tailed)	0.025	0.025	0.307	0.981	0.736	0.206
	N	110	110	110	110	110	110
Capacity Building	Pearson Correlation	0.031	0.037	0.048	0.108	0.021	0.054
	Sig. (2-tailed)	0.746	0.699	0.618	0.261	0.831	0.573
	N	110	110	110	110	110	110
Knowledge Sharing	Pearson Correlation	0.080	0.044	0.124	0.072	0.071	0.003
	Sig. (2-tailed)	0.408	0.649	0.195	0.455	0.462	0.979
	N	110	110	110	110	110	110

Table 15 presents the significant relationships between the implementation of Learning Action Cell (LAC) practices and science teachers’ behavioral competence across six domains. The results reveal that only a few LAC components show statistically significant relationships. Specifically, Collaborative Planning is significantly related to Professionalism and Ethics ($r = 0.221, p = 0.020$), indicating that effective planning among teachers is associated with improved professional conduct. Similarly, Collaborative Problem Solving also shows a significant relationship with Professionalism and Ethics ($r = 0.193, p = 0.043$).

Moreover, Collaborative Action Implementation demonstrates significant relationships with both Self-Management ($r = 0.213, p = 0.025$) and Professionalism and Ethics ($r = 0.214, p = 0.025$), suggesting that active implementation of collaborative actions enhances teachers’ ability to manage themselves and uphold professional standards.

On the other hand, Capacity Building and Knowledge Sharing do not show any significant relationships with any of the behavioral competence domains, as all their p-values exceed 0.05. Overall, the findings suggest that certain collaborative practices within LAC sessions contribute to strengthening specific aspects of teachers’ behavioral competence, particularly in professionalism, ethics, and self-management, while other components appear to have no measurable impact.

In contrast, collaborative action-implementation demonstrated weak but statistically significant relationships with self-management ($r = .213, p = .025$) and professionalism and ethics ($r = .214, p = .025$). These results indicate that when teachers jointly implement strategies agreed upon during LAC sessions, there may be a small positive influence on their ability to manage responsibilities and uphold professional standards.

On the other hand, capacity building did not yield any statistically significant relationship with any of the behavioral competence domains. The very weak and non-significant correlations suggest that capacity-building activities alone may not directly translate into improved behavioral competence.

School leaders and LAC facilitators should also provide regular opportunities for collaborative lesson analysis, peer feedback, and the sharing of context-specific instructional strategies. Adequate time allocation, access to relevant teaching resources, and continuous mentoring can further strengthen teacher engagement and participation in LAC activities.

Moreover, integrating data from classroom assessments and learner performance can help ensure that discussions remain grounded in actual instructional challenges and student needs. Through these measures, LAC sessions can become more responsive, reflective, and transformative spaces for continuous professional growth.

Significant Relationship between the Implementation of Learning Action Cell (LAC) Sessions and Science Teachers’ Instructional Delivery

Table 16 presents the significant relationship between the implementation of Learning Action Cell (LAC) practices and Science Teachers’ Instructional Delivery. Specifically, it examines the relationship between the different dimensions of LAC practices, namely Collaborative Planning, Collaborative Problem Solving, Collaborative Action-Implementation, Capacity Building, and Knowledge Sharing, and the areas of instructional delivery such as Knowledge and Pedagogy, Learning Environment and Diversity of Learners, and Curriculum Planning and Assessment and Reporting.

Significant Relationship between the Implementation of Learning Action Cell (LAC) Sessions and Science Teachers’ Instructional Delivery

Table 16 shows that among the components of Learning Action Cell (LAC), only a few have statistically significant relationships with science teachers’ instructional delivery. Specifically, Collaborative Planning demonstrates a significant positive relationship with Learning Environment and Diversity of Learners ($r = 0.310, p = 0.001$), indicating that higher levels of collaborative planning are associated with better management of diverse learning environments. Similarly, Capacity Building is also significantly related to the same domain ($r = 0.234, p = 0.014$), suggesting that enhancing teachers’ skills and competencies contributes to improved classroom environments.

Table 16. Significant relationship between the implementation of Learning Action Cell (LAC) practices and Science Teachers’ Instructional Delivery

Implementation of Learning Science Teachers’ Instructional Delivery

Action Cell (LAC) Practices		Knowledge and Pedagogy	Learning Environment and Diversity of Learners	Curriculum Planning and Assessment and Reporting
Collaborative Planning	Pearson Correlation	0.125	0.310*	0.101
	Sig. (2-tailed)	0.193	0.001	0.296
	N	110	110	110
Collaborative Problem Solving,	Pearson Correlation	0.175	0.078	0.023
	Sig. (2-tailed)	0.068	0.418	0.809
	N	110	110	110
Collaborative Action-Implementation	Pearson Correlation	0.044	0.186	0.180
	Sig. (2-tailed)	0.649	0.052	0.061
	N	110	110	110
Capacity Building	Pearson Correlation	0.012	0.234*	0.056
	Sig. (2-tailed)	0.902	0.014	0.560
	N	110	110	110
Knowledge Sharing	Pearson Correlation	0.059	0.053	0.110
	Sig. (2-tailed)	0.541	0.584	0.254
	N	110	110	110

In general, the largest effects appear for learning environment and diversity of learners, followed by content knowledge and pedagogy, with curriculum planning and assessment also showing robust, though comparatively smaller, coefficients. This pattern suggests that collaborative professional learning most immediately translates into classroom climate and inclusivity practices, while curriculum and assessment improvements, though significant, may require longer design cycles and iterative refinement.

Collaborative planning shows strong, significant relationships with all three domains of instructional delivery. The pattern is most evident for content knowledge and pedagogy and remains substantial for the other two domains, implying that structured, reflective planning helps teachers consolidate subject-matter understandings, align strategies with objectives, and anticipate learner needs.

Collaborative problem solving likewise demonstrates strong associations across domains and is particularly pronounced for learning environment and diversity of learners. Joint diagnosis of classroom challenges, analysis of root causes, and co-design of responses appear to equip teachers to manage inclusivity, engagement, and behavior more effectively during science instruction.

Collaborative action implementation yields significant, positive, but relatively lower coefficients than planning and problem solving, especially for curriculum planning and assessment and reporting. This trend suggests that the impact of joint enactment depends on systematic follow-through i.e., peer observation, feedback loops, and reflective evaluation, to

consolidate gains from new strategies into stable practice and assessment design

Capacity building shows significant, moderate-to-strong linkages with all instructional domains, indicating that well-scaffolded professional development embedded in the school’s routines contributes broadly to improved teaching.

Finally, knowledge sharing records the strongest associations in the table, with the highest coefficients observed for learning environment and diversity of learners and equally strong links to content knowledge and pedagogy and to curriculum planning and assessment. Routine exchange of strategies, resources, and classroom evidence appears to accelerate the diffusion of effective practices and to cultivate trust and professional norms that support responsive, inclusive teaching.

In sum, all five LAC components i.e., collaborative planning, collaborative problem solving, collaborative action-implementation, capacity building, and knowledge sharing, are significantly associated with stronger instructional delivery among science teachers, with the most pronounced benefits for classroom environment and inclusivity. The pattern reinforces prior literature that positions reflective co-planning, shared inquiry, and systematic knowledge exchange as core mechanisms through which school-based learning communities elevate teaching quality.

IV. CONCLUSION AND RECOMMENDATIONS

Significant positive correlations found between all dimensions of LAC practices and science teachers’ behavioral competence thus the null hypothesis is accepted. These results indicate that while some LAC practices modestly contribute to strengthening aspects of teachers’ behavioral competence, LAC implementation does not exert a broad or comprehensive influence across all behavioral competence domains. Thus, the effect of LAC on behavioral competence is selective, domain-specific, and incremental rather than generalized or strong.

The null hypothesis stating that there is no significant relationship between the implementation of Learning Action Cell (LAC) practices and science teachers’ instructional delivery is accepted. These findings suggest that LAC practices has a partial influence on both science teachers’ behavioral competence and instructional delivery. Only selected components of LAC- particularly collaborative planning, collaborative problem solving and collaborative action implementation- demonstrated significant relationships with specific domains such as learning environment, professionalism and ethics, and self-management. Therefore, the relationship between LAC implementation and science teachers’ behavioral competence and instructional delivery is positive but not uniform across all domains.

Based on the drawn conclusions resulted to the following recommendations:

School administrators may strengthen the institutionalization of Learning Action Cell (LAC) sessions by ensuring regular scheduling, clear objectives, and well-defined facilitation protocols. Administrators are encouraged to provide adequate time, logistical support, and monitoring

mechanisms that encourage purposeful collaborative planning and problem solving. By doing so, school leaders reinforce professional norms, nurture positive behavior among teachers, and ensure that LAC remains a sustained driver of instructional improvement.

LAC coordinators may refine LAC processes by integrating structured tools such as reflection guides, collaborative planning templates, observation checklists, and feedback protocols. Coordinators could also enhance facilitation strategies that promote deeper critical evidence-based discussions.

Science teachers may take an active responsibility in maintaining a collaborative atmosphere by actively and completely engaging in LAC sessions, sharing classroom innovations, initiating problem-solving dialogues, and applying insights gained into their instructional practice. They are encouraged to continuously refine their professional behavior by engaging in reflective practice, strengthening their teamwork and results-focused mindset, and integrating feedback into curriculum planning, learner support, and assessment design.

Curriculum Planners and Instructional Leaders may use the findings from LAC discussions to inform curriculum enhancement, development of learning resources, and targeted professional development programs. They are encouraged to align school-based initiatives with the identified instructional needs of science teachers, especially in fields like differentiated instruction, inclusive education, and assessment

literacy. This alignment ensures that LAC-generated insights meaningfully influence curriculum design and instructional policies.

To provide deeper qualitative insights regarding LAC implementation, future researchers may broaden the scope of this study by investigating more variables, using bigger or more diverse populations, or utilizing mixed-methods techniques. Future studies may also examine longitudinal impacts of LAC participation, compare LAC effectiveness across subject areas or school types, or investigate mediating factors such as leadership, school culture, or digital competency.

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