



DIMENSIONS OF TEACHERS' PERFORMANCE: A CONFIRMATORY FACTOR ANALYSIS

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Abstract:

Teachers are often evaluated using tools that focus mainly on what happens inside the classroom, but these miss important parts of their work such as lesson planning, professional growth, student engagement, and community involvement. This study responds to that gap by examining teacher performance as a multidimensional construct shaped by personal, professional, organizational, motivational, and technological factors. Guided by Herzberg's Motivation Theory, Bandura's Social Cognitive Theory, and Danielson's Framework for Teaching, the research used a mixed-methods design involving teachers from the Davao Region through surveys and in-depth interviews. Data were analyzed using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and thematic analysis to strengthen the interpretation of results. Findings confirmed several core dimensions of teacher performance, including Personal Growth and Professional Development, Empowering Student Growth, and Strategizing Effective Teaching. Technological proficiency also emerged as an essential component of teaching in the post-pandemic era. The CFA further supported a reliable two-dimensional model of teacher performance, showing that teaching is influenced not only by individual skills and commitment but also by school culture, leadership, and available resources. The study emphasizes that supportive environments—those that encourage collaboration, motivation, and continuous learning—play a vital role in helping teachers thrive. This research offers a validated framework that can guide teacher evaluation, professional development, and education policy aligned with the PPST and the MATATAG Curriculum. It advocates for a shift from traditional, limited evaluation

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systems toward more holistic, evidence-based approaches that capture the real depth and complexity of teachers' work.

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1. Introduction

Teacher performance is a vital determinant of educational quality and student achievement. However, existing evaluation systems often rely on generalized tools and rating scales that overlook the complex, multidimensional nature of teaching. Traditional assessments emphasize classroom behavior and student outcomes while neglecting key elements such as instructional planning, professional growth, learner engagement, and community involvement. These gaps, along with inconsistent evaluator judgments, raise concerns about validity and reliability.

Recent studies view teacher performance as a multidimensional construct encompassing pedagogical competence, professional accountability, collegiality, and school contributions. Frameworks by Danielson (2020), Marzano and Toth (2021), and Stronge (2022) emphasize that effective evaluation should go beyond summative ratings to promote continuous professional development through valid and reflective practices. Confirmatory Factor Analysis (CFA) serves as a robust statistical approach to validate these dimensions and ensure empirical accuracy.

Teacher performance is influenced by personal, organizational, motivational, and technological factors. Personal attributes such as experience, education, and self-efficacy affect classroom management and student engagement (Aboagye & Yawson, 2022). Supportive leadership, collegial relationships, and school culture enhance teaching effectiveness (Suleman *et al.*, 2021), while motivation, recognition, and emotional well-being foster creativity and job satisfaction (Mensah & Azila-Gbettor, 2022). The post-pandemic era has further expanded expectations, highlighting the need for digital literacy and adaptability (Pokhrel & Chhetri, 2021).

Despite growing research, most studies remain fragmented, focusing on isolated factors rather than integrated models. In the Philippine context, few have utilized advanced psychometric techniques such as CFA, particularly in schools serving Indigenous Peoples (IP) and rural learners.

The study, "Dimensions of Teachers' Performance: A Confirmatory Factor Analysis (CFA)", addresses this gap by validating a multidimensional model grounded in Herzberg's Two-Factor Theory (1959), Bandura's Social Cognitive Theory (1986), and Danielson's Framework for Teaching (1996, 2013). It integrates motivation, self-efficacy, environmental support, and professional responsibility into a cohesive structure that

captures the interplay of personal, organizational, motivational, and technological factors.

This research offers valuable insights for teachers, learners, parents, and policymakers. It provides a framework for professional growth, enhances teaching quality, and informs evidence-based evaluation aligned with the Philippine Professional Standards for Teachers (PPST) and the MATATAG Curriculum. Ultimately, it bridges theory and practice through an empirically validated model that promotes quality, equity, and sustainability in education.

2. Method

2.1 Study Participants

The study involved teachers from public schools in the Davao Region. Participants were eligible if they were licensed teachers who voluntarily consented to join the study after being fully informed about its purpose. Participation or non-participation had no effect on their employment status or their relationship with the school or the researcher. Teachers who were not regular or permanent staff were excluded.

Two sampling techniques were employed: non-probability and probability sampling. For the qualitative phase, purposive sampling was used to ensure that only relevant participants—teachers—were interviewed. For the quantitative phase, simple random sampling was applied to meet the assumptions of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), ensuring fair representation (Ghauri & Gronhaug, 2005).

Twelve teachers were interviewed during the qualitative phase, which was sufficient to achieve data saturation (Majid *et al.*, 2018). In the quantitative phase, 300 teachers were surveyed to meet the recommended sample size for EFA and CFA (Daniel, 1989; Willmer *et al.*, 2019; Jackson, 2001).

2.2 Materials and Instrument

Two instruments were utilized in the study. For the qualitative phase, an interview guide was developed based on the literature review. For the quantitative phase, a custom survey questionnaire was constructed from the interview findings and related studies. The questionnaire used a 5-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5), to measure participants' levels of agreement with the given statements.

2.3 Design and Procedure

The study employed a mixed-method design integrating Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) to identify and validate the dimensions of teachers' performance (Bonds & Raacke, 2014).

The research began with a review of related literature and teacher interviews. Thematic analysis was conducted to identify significant statements, which were then used to develop the survey questionnaire. Content validity was established through the

Content Validity Ratio (CVR) method, evaluated by ten experts. Items with CVR values above 0.80 were retained.

EFA was applied to explore the underlying dimensions of teacher performance without imposing a predefined structure (Child, 1990; Bartholomew *et al.*, 2011). CFA was subsequently used to confirm and validate the identified factors using fit indices such as Chi-square, TLI, and RMSEA (Hooper, 2012).

2.4 Ethical Consideration

As this study will not involve data collection involving human, animal, or other living things, conventional ethics approval will not be sought, and an exemption will be deemed necessary. However, to conform to the guidelines on ethical conduct of research using secondary sources of data, this study shall observe full ethical standards aligned to the certificate of approval with UMERG Protocol No. UMERG-2024-368 in the conduct of the study, following the study protocol, assessments, and standardized criteria, particularly in managing the data, such as, but not limited to:

Voluntary participation made participants join freely and allowed them to withdraw at any time without consequences. Privacy and confidentiality of participants' information will be protected, and sensitive data will be handled carefully. Informed consent, participants will complete a consent form and can withdraw if uncomfortable. Excluded are those not serving as principals, head teachers, master teachers, or designated School/Teacher In-Charge. Recruitment participants are selected according to the study's scope. Risks and Benefits Risks will be minimized, and participants will benefit from the study's outcomes. Academic Integrity is free from plagiarism, fabrication, and falsification; Turnitin will ensure originality, and proper citations will be used. Permission organizations will approve the use of consent forms for data collection. Technology is not applicable. Authorship has all sources, citations, and methods that will be properly acknowledged throughout the study.

3. Results and Discussion

This section presents the study's results and provides a discussion of the findings concerning the research objectives. The data are analyzed, interpreted, and compared with relevant literature to highlight significant patterns, implications, and insights. The presentation aims to clarify how the study's outcomes address the research questions and contribute to a deeper understanding of the topic.

3.1 Dimensions of Teachers' Performance

The thematic analysis of the Dimensions of Teachers' Performance revealed four major themes that collectively describe how teachers demonstrate effectiveness in their professional roles. Using Braun and Clarke's (2006) six-phase framework for thematic analysis, the researcher systematically examined interview data and related documents to uncover recurring patterns and insights into teacher performance.

The first dimension, Managing Student Misbehavior and Disinterest, highlights teachers' ability to handle classroom challenges by fostering positive behavior, engagement, and discipline. Teachers employ proactive management strategies, individualized attention, positive reinforcement, and collaboration with parents to sustain a conducive learning environment.

The second dimension, Empowering Student Growth and Strategizing Effective Teaching, underscores teachers' use of varied pedagogical approaches to support student learning. This includes differentiated instruction, formative assessments, and multimodal teaching strategies tailored to learners' needs. Teachers align their lessons with SMART objectives, integrate technology and real-life applications, and provide constructive feedback to encourage creativity and participation.

The third dimension, Optimizing Class Projects for Successful Learning, focuses on how teachers design and implement engaging projects that connect classroom learning with real-world contexts. By incorporating collaboration, student choice, creativity, and technological tools, teachers promote critical thinking, teamwork, and deeper understanding among learners.

The fourth dimension, Personal Growth and Professional Development, reflects teachers' ongoing pursuit of professional excellence. They actively participate in training programs, collaborate with colleagues, reflect on their practices, and apply feedback to enhance instruction. This continuous development strengthens adaptability, teamwork, and alignment with current educational innovations.

3.2 Item Development

The development of the instrument designed to measure the dimensions of teachers' performance followed a systematic three-phase process to ensure both its validity and reliability. Table 1 presents the distribution of items across each subscale throughout these phases.

Table 1: Tentative Number of Items of the Subscale of Dimensions of Teachers' Performance

Sub-scale	Number of Items		
	Phase 1 (Literature Analysis and in- depth Interview	Phase 2 (Adviser's Revisions	Phase 3 (Experts' Validation)
1. Managing Student Misbehavior and Disinterest	8	8	7
2. Empowering Student Growth and Strategizing Effective Teaching	10	10	9
3. Optimizing Class Projects for Successful Learning	27	27	27
4. Personal Growth and Professional Development	20	20	20

In the first phase, an initial pool of 65 item statements was generated from an extensive review of relevant literature and insights gathered from in-depth teacher interviews. This

stage ensured that the items were conceptually aligned with the study's theoretical framework and reflected authentic classroom practices. During the second phase, the research adviser reviewed the items for clarity, coherence, and content relevance. Although all items were retained, several were refined to enhance readability and conceptual precision. The third phase involved a panel of experts who evaluated the items using Lawshe's (1975) Content Validity Ratio (CVR) to determine their essentiality and appropriateness. Of the 65 original items, 63 met the validity criteria, while two were eliminated for falling below the acceptable CVR threshold. The retained items all achieved coefficients above 0.50, indicating strong content validity and construct alignment.

The validated instrument comprised four primary dimensions of teacher performance, each represented by a specific set of items:

- 1) Managing Student Misbehavior and Disinterest – Eight items focused on teachers' capacity to sustain discipline, engagement, and positive classroom conduct.
- 2) Empowering Student Growth and Strategizing Effective Teaching – Thirteen items assessed teachers' use of adaptive instruction, formative assessment, and feedback mechanisms that support holistic learning.
- 3) Optimizing Class Projects for Successful Learning – Ten items measured how teachers implement creative, project-based strategies that enhance collaboration and critical thinking.
- 4) Personal Growth and Professional Development – Twenty-two items reflected teachers' dedication to continuous learning, reflective practice, and professional collaboration.

To establish construct validity, the instrument underwent Exploratory Factor Analysis (EFA) with data from 300 teacher respondents. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded a value of 0.937, far exceeding the minimum benchmark of 0.50, signifying that the dataset was suitable for factor analysis. Similarly, Bartlett's Test of Sphericity was highly significant ($p < 0.001$), confirming the presence of patterned relationships among variables.

The eigenvalue results indicated the extraction of eight factors, with the first factor emerging as the most dominant, explaining 52.99% of the total variance (eigenvalue = 34.445). The subsequent factors accounted for smaller yet meaningful portions, with the cumulative variance reaching 71.05%, demonstrating that multiple constructs contributed to the overall measurement of teacher performance.

Figure 3 depicts the scree plot derived from the secondary Exploratory Factor Analysis (EFA) undertaken within this investigation.

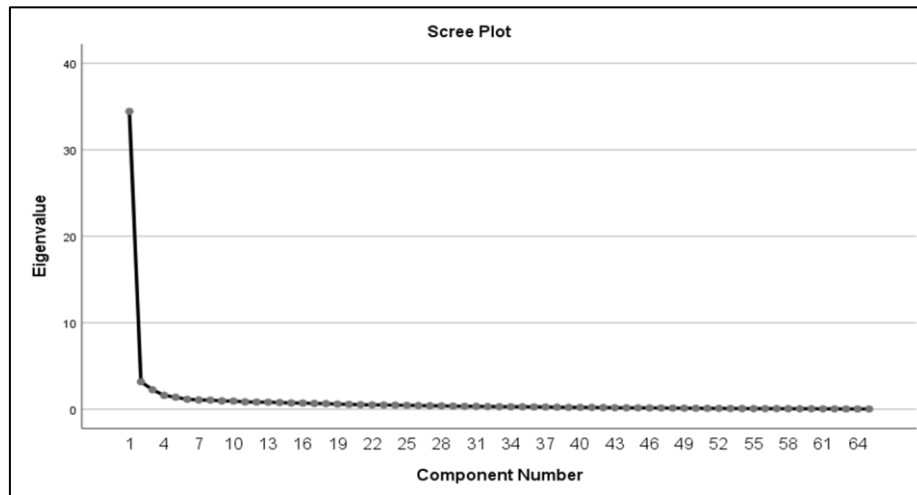


Figure 3: Scree Plot of the Dimensions of Teachers' Performance: A Confirmatory Factor Analysis

The scree plot (Figure 3) provided further evidence supporting this multidimensionality. According to Cattell's (1966) scree test, the notable "elbow" appearing after the third factor signified the point where the contribution of additional factors began to diminish. This result reinforced the interpretation that the instrument captures several interrelated dimensions of teacher performance. Following Gorsuch's (1997) recommendation, the reliability of the factor solution was strengthened by the large sample size and clearly established constructs.

In conclusion, the rigorous three-phase development and validation process produced a psychometrically sound instrument characterized by strong content and construct validity. The results confirm that the tool effectively measures four critical dimensions of teacher performance—behavior management, instructional effectiveness, project-based engagement, and professional development—within a coherent and empirically supported multidimensional framework.

In Table 5, the researcher presented the factor loading and thematic analysis findings concerning the Dimensions of Teachers' Performance.

Table 5: Factor Loading of Dimensions of Teachers' Performance

Item Number	Factor Loading							
	1	2	3	4	5	6	7	8
19. I maintain open and constructive communication with colleagues.	0.742							
9. I engage in open discussions with peers to address teaching challenges.	0.722							
14. I collaborate with colleagues to design engaging school activities.	0.707							
20. I focus on shared goals and student's success when resolving conflicts.	0.704							
11. I work with fellow teachers to create interdisciplinary lessons or projects.	0.696							
7. I implement suggestions from classroom observations to enhance instruction.	0.692							
1. I actively participate in professional development opportunities to enhance my teaching.	0.69							
5. I stay updated with current trends and best practices in education.	0.683							
8. I collaborate with colleagues to improve lesson planning and instructional strategies.	0.681							
15. I reflect on and improve my teaching through professional discussions with peers.	0.673							
13. I participate in school-wide initiatives that benefit students.	0.666							
3. I seek feedback from mentors and colleagues to improve my instructional methods.	0.662							
12. I share teaching strategies and resources with colleagues to enhance learning.	0.647							
6. I seek feedback from colleagues or supervisors to improve my teaching.	0.635							
17. I actively listen to colleagues' perspectives before responding to conflicts.	0.614							
2. I apply newly learned teaching strategies in my classroom.	0.605							
4. I reflect on my teaching practices and make continuous improvements.	0.605							
16. I handle disagreements professionally and respectfully in the workplace.	0.597							
10. I adapt my teaching based on feedback to improve student learning outcomes.	0.596							
18. I work towards finding mutually beneficial solutions in professional disagreements.	0.579							
27. I ensure continuity of learning by providing alternative instructional methods.	0.526							
6. I assess students' learning styles and tailor my instruction accordingly.	0.4		0.478					
19. I foster a growth mindset by reassuring students that mistakes are part of learning.		0.705						
17. I balance praise with constructive criticism to build student confidence		0.689						
18. I encourage students to revise their work based on feedback.		0.675						
10. I recognize and celebrate student contributions to foster motivation.		0.581						
12. I adjust my teaching strategies based on formative assessment results.		0.54						
20. I personalize my feedback to address each student's strengths and areas for improvement.	0.406	0.512						
14. I provide timely feedback to help students improve their performance.	0.453	0.502						
11. I use formative assessments (e.g., quizzes, reflections, exit tickets) to check student understanding.		0.493						
10. I reflect on my teaching practices and adjust improve student learning outcomes.		0.486			0.477			
16. I provide specific and actionable feedback to help students improve.	0.417	0.481	0.43					

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7. I encourage collaboration and teamwork to increase participation.		0.454						
26. I quickly adjust my teaching approach when faced with unexpected changes.		0.44	0.423					
9. I incorporate peer tutoring and collaborative activities to support struggling students.		0.412						
9. I use creative projects (e.g., role-playing, debates, multimedia) to boost student enthusiasm.			0.688					
23. I modify my teaching based on technological advancements and best practices.			0.667					
25. I assess the effectiveness of new teaching strategies and refine them as needed.	0.424		0.638					
24. I encourage students to use technology responsibly for academic purposes.		0.435	0.603					
5. I provide opportunities for student choice in learning activities and assignments			0.577					
3. I encourage students to explore their passions through academic projects.			0.571		0.471			
21. I incorporate technology (e.g., interactive apps, digital tools) to enhance lessons.			0.508				0.428	
22. I use innovative teaching methods to make learning engaging and relevant.			0.491					
13. I encourage peer assessment to help students reflect on their own learning.			0.49			0.432		
15. I use a variety of assessment methods to measure student progress effectively.			0.405					
3. I implement positive reinforcement techniques to encourage good behavior.				0.818				
5. I assign meaningful tasks to keep students focused and involved.				0.78				
2. I establish clear and consistent classroom rules to maintain order.				0.755				
4. I successfully engage disruptive students by incorporating their interests into lessons.				0.754				
6. I assign meaningful tasks to keep students focused and involved.				0.744				
1. I effectively handle disruptive student behavior using appropriate strategies.				0.74				
8. I encourage teamwork and peer support to foster a collaborative learning environment.				0.696				
7. I communicate with parents or guardians to help manage student behavior.				0.555		0.528		
1. My lessons align with SMART (Specific, Measurable, Achievable, Relevant, Time-bound) learning objectives.					0.67			
3. I regularly check for student understanding through formative assessments.					0.637			
2. I incorporate hands-on activities and real-life examples to reinforce concepts					0.61			
4. I modify my lesson delivery based on student responses and engagement.					0.579			
5. My students demonstrate mastery of lesson objectives through assessments and class discussions.					0.569			
2. I use real-life applications of concepts to make learning more relevant.					0.547			
4. I design activities that allow students to connect learning to their everyday experiences.					0.508			
1. I integrate students' hobbies and interests into lessons to enhance engagement.					0.5			
8. I use multiple teaching modalities (visual, auditory, kinesthetic) to reach all learners.					0.419			

Table 5 presents the factor loadings and thematic analysis results that clarify how the 63 validated items clustered into four distinct dimensions of teachers' performance. Items with factor loadings below 0.40 were removed, ensuring that only those with strong relationships to their respective factors were retained, consistent with the recommendations of Costello and Osborne (2005). Moreover, factors with fewer than three items were excluded (MacCallum *et al.*, 1999; Raubenheimer, 2004). This careful screening led to the identification of four reliable and conceptually coherent dimensions that collectively represent teachers' professional practices and strategies.

The first dimension, labeled *Personal Growth and Professional Development*, comprised 20 items emphasizing teachers' dedication to continuous learning, reflective practice, and collegial collaboration. The findings revealed that teachers consistently engaged in professional development activities, integrated new strategies into their instruction, and sought feedback from peers and mentors to refine their teaching (Cordova & De Guzman, 2022; Darling-Hammond *et al.*, 2020). This dimension also highlighted teachers' collaborative culture—evident through shared planning, open discussions, and cooperative problem-solving—demonstrating that teamwork is a vital element in improving instructional quality. Furthermore, teachers exhibited professionalism in addressing workplace challenges, maintaining open communication, and resolving conflicts respectfully while focusing on shared goals and student success (Salazar, 2022; Briones *et al.*, 2023). Their flexibility and adaptability, particularly in using varied instructional methods to meet diverse learner needs, reflected a culture of reflective and resilient professional practice (Santiago & Tuazon, 2021; Chen *et al.*, 2022).

The second dimension, *Empowering Student Growth and Strategizing Effective Teaching*, consisted of 9 items that captured how teachers create supportive and feedback-driven learning environments. These practices promote student confidence, motivation, and ownership of learning. Teachers cultivate a growth mindset, viewing mistakes as part of the learning process, and balance praise with constructive feedback to build resilience (Zhao & Tan, 2022). They also personalize instruction through formative assessments, timely and specific feedback, and adaptive teaching strategies to address individual differences (Brookhart, 2021; Black & Wiliam, 2020). This dimension underscores a learner-centered philosophy in which teachers act as facilitators of student growth, using assessment and reflection as tools for continuous improvement (Cordova & De Guzman, 2022; Salazar, 2021).

The third dimension, *Optimizing Class Projects for Successful Learning*, included 27 items related to designing engaging, technology-integrated, and project-based instructional activities. Teachers were shown to value creativity and real-world relevance by incorporating role-playing, debates, multimedia presentations, and other experiential methods that deepen understanding and foster collaboration (Thomas, 2020; Briones *et al.*, 2023). This dimension emphasizes teachers' roles as instructional designers who adapt teaching practices in line with technological innovations and educational research. By integrating digital tools and providing opportunities for student choice, teachers promote autonomy and prepare learners for the demands of a technology-driven environment (Chen *et al.*, 2022; UNESCO, 2023).

The fourth dimension, *Managing Student Misbehavior and Disinterest*, consisted of seven items that addressed how teachers proactively manage classroom behavior and sustain engagement. Rather than relying on punitive approaches, teachers use positive reinforcement to encourage desirable conduct, establish clear classroom expectations, and design meaningful learning tasks that keep students motivated (Reyes & Villanueva, 2022; Salazar, 2021). They also build collaborative relationships with parents and guardians to address behavioral concerns and employ strategies that align with students' interests, thereby transforming potential disruptions into learning opportunities (Mercado & Santiago, 2023; OECD, 2022). This factor reflects a compassionate and student-centered approach to classroom management, grounded in empathy, structure, and relevance.

Overall, the exploratory factor analysis and thematic interpretation confirmed that teachers' performance is a multidimensional construct encompassing four key domains: professional growth, instructional effectiveness, innovative learning design, and behavioral management. Each factor demonstrated strong internal consistency and theoretical alignment, underscoring that effective teaching involves an integrated balance of personal development, learner empowerment, creativity, and a positive classroom climate. These findings provide empirical support for the instrument's validity and highlight the diverse competencies that define high-quality teaching in contemporary educational settings.

3.3 Measurement Model of the Dimensions of Teachers' Performance

The Confirmatory Factor Analysis (CFA) was conducted to verify whether the measurement model of teachers' performance aligned with the structure previously identified through the Exploratory Factor Analysis (EFA). This phase aimed to confirm the theoretical relationships among the latent constructs and ensure both the reliability and validity of the proposed model. Prior to conducting the CFA, the study adhered to key statistical assumptions, including adequate sample size, normality of data distribution, and the appropriateness of the measurement scale. Robust estimation techniques, such as the Diagonally Weighted Least Squares (DWLS), were used to address the ordinal nature of the data and enhance model accuracy.

Initial CFA results yielded moderate model fit indices ($\chi^2/df = 2.510$, GFI = 0.906, CFI = 0.905, TLI = 0.899, RMSEA = 0.070). To improve the model, the researcher applied modifications by correlating error terms within the same dimensions and removing items with low standardized coefficients. After respecification, the final model achieved excellent fit indices ($\chi^2/df = 1.56$, GFI = 0.975, CFI = 0.975, TLI = 0.961, RMSEA = 0.044), indicating a well-fitting and theoretically consistent measurement structure.

The final CFA confirmed two major latent factors representing the key dimensions of teachers' performance: (1) Personal Growth and Professional Development, and (2) Empowering Student Growth and Strategizing Effective Teaching. The correlations among these latent constructs fell within the acceptable range of 0.50–0.85, affirming both discriminant and convergent validity. All item loadings were statistically significant ($p < 0.05$), confirming that each indicator effectively measured its corresponding construct.

Reliability testing further demonstrated strong internal consistency, with Cronbach's alpha values ranging from 0.94 to 0.96 and an overall reliability coefficient of 0.977. These results validate the robustness and consistency of the instrument, ensuring dependable measurement of teachers' performance across different contexts.

The validated model underscores that teacher performance is a multidimensional construct reflecting both professional competence and instructional effectiveness. The Personal Growth and Professional Development dimension highlights teachers' commitment to lifelong learning, collaboration, and reflective practice, while Empowering Student Growth and Strategizing Effective Teaching captures their ability to design adaptive, feedback-driven, and inclusive learning environments. Together, these dimensions represent the essential attributes of effective and transformative teaching.

In conclusion, the CFA results confirmed the integrity of the measurement model, providing empirical evidence that the instrument reliably assesses the complex interplay between teacher development and student empowerment. The validated tool serves as a valuable framework for evaluating and enhancing teacher performance, ultimately contributing to the delivery of equitable and high-quality education.

4. Conclusion

The study validated that teacher performance is a multidimensional construct shaped by a combination of personal, professional, and instructional factors. Through thematic analysis, Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA), four key dimensions of teacher performance were identified and empirically supported: Managing Student Misbehavior and Disinterest, Empowering Student Growth and Strategizing Effective Teaching, Optimizing Class Projects for Successful Learning, and Personal Growth and Professional Development.

These dimensions collectively demonstrate that effective teaching extends beyond content delivery—it involves emotional intelligence, reflective practice, pedagogical adaptability, and the ability to foster a positive and inclusive classroom environment. Teachers who are proactive in managing student behavior, adaptive in their instructional strategies, innovative in their lesson design, and committed to continuous learning exemplify high levels of professional performance.

The Confirmatory Factor Analysis (CFA) further verified the structure of the measurement model, confirming that two overarching latent factors—Personal Growth and Professional Development and Empowering Student Growth and Strategizing Effective Teaching—best represent the complex nature of teacher performance. The excellent model fit indices ($\chi^2/df = 1.56$, GFI = 0.975, CFI = 0.975, TLI = 0.961, RMSEA = 0.044) and strong reliability coefficients ($\alpha = 0.94\text{--}0.96$) provide robust empirical evidence of the instrument's validity and internal consistency.

The validated model carries important implications for theory, practice, policy, and research.

Theoretically, the study reinforces frameworks such as Bandura's Social Cognitive Theory and Deci and Ryan's Self-Determination Theory, emphasizing the interaction between motivation, self-efficacy, and environmental support in shaping teacher effectiveness. The inclusion of technological adaptability expands traditional models by positioning digital competence as a key theoretical dimension of 21st-century teaching.

Practically, the multidimensional framework can serve as a diagnostic tool for identifying teachers' strengths and areas for improvement in domains such as collaboration, motivation, and digital proficiency. It also promotes the development of growth-oriented appraisal systems that prioritize continuous improvement over compliance, as well as professional development programs that address both pedagogical and technological competencies.

At the policy level, the study offers empirical support for enhancing national standards such as the Philippine Professional Standards for Teachers (PPST) and the MATATAG Curriculum by adopting a multidimensional, evidence-based framework. This approach aligns with the goals of Sustainable Development Goal 4 (SDG 4), which promotes inclusive and equitable quality education. The use of validated CFA-based models ensures fair, transparent, and psychometrically sound teacher evaluation and accountability systems.

For research, the study demonstrates the usefulness of CFA in validating educational constructs and encourages further exploration using Structural Equation Modeling (SEM) to examine causal relationships among the identified dimensions of teacher performance. Longitudinal and comparative studies are also recommended to explore the development and contextual variability of teacher performance over time.

In summary, the study contributes to the body of knowledge by offering a validated, evidence-based framework that captures the interrelated competencies defining teacher effectiveness in 21st-century education. The results emphasize that improving teacher performance requires a holistic approach—integrating classroom management, instructional innovation, reflective practice, and continuous professional growth. This multidimensional model provides a valuable foundation for enhancing teacher evaluation, professional development programs, and policy reform toward equitable and quality education. Finally, the study concludes that teacher performance is a multifaceted and interdependent construct encompassing professional competence, motivation, organizational support, and technological capacity. Recognizing these interconnected dimensions is vital for developing effective evaluation systems, informed policies, and responsive professional development programs. Ultimately, the validated model provides a solid foundation for re-envisioning teacher performance in ways that advance innovation, inclusivity, and lifelong learning—core values of 21st-century education.

5. Recommendations

Building on the findings and conclusions, the following recommendations are proposed for teachers, school leaders, policymakers, and future researchers:

5.1 For Teachers

- 1) Engage in continuous professional learning and reflective practice to enhance pedagogical skills, emotional resilience, and digital literacy.
- 2) Participate actively in professional learning communities to promote collaboration, innovation, and shared problem-solving.
- 3) Apply differentiated instruction and formative assessment techniques to meet diverse learner needs and improve engagement.
- 4) Strengthen classroom management through positive reinforcement, empathy, and structured routines that foster respect and focus.

5.2 For School Leaders and Administrators

- 1) Cultivate a supportive and motivating organizational climate that values teacher well-being, collaboration, and growth.
- 2) Implement performance appraisal systems grounded in empirically validated frameworks to ensure fairness, transparency, and developmental purpose.
- 3) Institutionalize mentorship and leadership programs that guide teachers—especially those in challenging contexts—toward professional excellence.
- 4) Provide targeted in-service training on classroom management, instructional innovation, and technology integration.

5.3 For Educational Policymakers and Curriculum Developers

- 1) Align the validated dimensions of teacher performance with national frameworks such as the Philippine Professional Standards for Teachers (PPST) and the MATATAG Curriculum.
- 2) Prioritize capacity-building initiatives focused on digital pedagogy, socio-emotional competence, and evidence-based teaching strategies.
- 3) Adopt psychometrically validated evaluation tools, like the CFA-based model developed in this study, to ensure reliability and standardization in teacher assessment across schools.
- 4) Support policies that recognize teacher well-being and professional growth as central to educational quality and sustainability.

5.4 For Future Researchers

- 1) Conduct longitudinal studies to examine the long-term development and stability of teacher performance dimensions.
- 2) Use mixed-methods or Structural Equation Modeling (SEM) to explore causal relationships and mediating factors affecting teacher effectiveness.

- 3) Undertake comparative studies across regions, school levels, or subject areas to identify contextual differences and enhance generalizability.
- 4) Extend the validated model to examine its applicability in international or cross-cultural contexts, contributing to global research on teacher quality.

In summary, this study affirms that effective teaching is a dynamic and multidimensional process that integrates professional competence, reflective growth, and adaptive instructional practices. Teachers who continuously improve their craft, innovate in their pedagogy, and build supportive learning environments contribute significantly to student success and overall school improvement.

The validated framework and measurement tool developed in this research provide an empirical basis for evaluating and enhancing teacher performance in alignment with both national and global educational standards. By adopting a holistic and research-informed approach to teacher development, educational institutions can advance the vision of inclusive, equitable, and high-quality education—as envisioned in the Sustainable Development Goals (SDG 4) and national education reform initiatives.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Authors

Juvy O. Leron, LPT, MaEd is a committed educator, author, and school leader with a distinguished career under the Department of Education – Philippines. Currently serving as School Principal I of Melilla Elementary School, she leads with a vision grounded in instructional excellence, learner-centered practices, and community partnership. Her work reflects a strong foundation in teaching and educational leadership, demonstrated by her authorship of “Classroom Management Practices of Teachers in the Transition of Mother Tongue into English Language,” a publication that underscores her advocacy for effective multilingual instruction. Her story and mission as an educator have also been featured by DepEd Davao del Sur, highlighting her dedication to transformative and inclusive education. Beyond school leadership, she has made notable contributions to curriculum development and research in the Division of Davao del Sur. She has helped produce learning materials, including a Grade 5 module, and has authored several

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