INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
Online ISSN: 3028-032X | Print ISSN: 3028-0370
PUBLISHED BY: RISEJOURNALS.ORG
Volume 2, Issue no. 6 | **399**

Teachers' Self-Efficacy and Performance

DOI: 10.5281/zenodo.15647894

Rayan A. Gamuza
Teacher-I, Don A. C. Yulo Elementary School, Hinigaran, Philippines
http://orcid.org./0009-0009-1748-7939

Dr. Riggi L. Lachica
Principal IV, Department of Education, Division of Bacolod City, Philippines
http://orcid.org./0009-0002-1950-4308

Mylene A. Bautista
STI West Negros University, Bacolod City, Philippines
https://orcid.org/0009-0003-6801-8215

Abstract:

This study examined the self-efficacy and performance of 140 teachers in a Central Philippine school district during the 2024–2025 school year, focusing on instructional delivery, classroom management, learner support and motivation, and professional development and collaboration. The sample, balanced in age but predominantly female, married, less experienced, and holding postgraduate degrees, revealed generally very high self-efficacy, especially in instructional delivery and classroom management, with slightly lower confidence in adaptive teaching strategies like differentiated instruction. Overall performance for 2023–2024 was rated outstanding. Significant differences in self-efficacy and performance were observed based on age, teaching experience, and educational attainment, while sex had no significant effect and civil status showed mixed influence. Teachers with higher qualifications demonstrated greater confidence and effectiveness, and older, married, and more experienced teachers earned higher performance ratings. A strong positive correlation between self-efficacy and performance suggests that teacher confidence enhances classroom effectiveness. The study recommends improving teacher training on adaptive instruction and learner support, promoting advanced education, mentoring new teachers, and recognizing excellence. Additionally, it calls for targeted programs for younger and less experienced teachers, ongoing professional development, and initiatives addressing students' emotional and social needs. Future research should further explore the relationship between teachers' self-efficacy and training needs to optimize instructional support and performance.

Key Words: Instructional Effectiveness, Professional Development, Teacher Self-Efficacy

Introduction:

Nature of the Problem

Students only respond positively to good learning environments. Most students' academic accomplishment depends heavily on the teacher's effectiveness in the classroom. In this case, the teachers are pivotal to the power of a nation through knowledge transfer, developing the character of their pupils with critical thinking, and providing them with the competencies necessary for today's fast-changing world (OECD, 2018). The process of evaluating and improving teacher performance has thus become a significant issue all over the world, nationally and locally, with the people who are in charge of the educational authorities and the stakeholders working hard to improve the delivery of quality education (Stronge, 2018; UNESCO, 2020).

Teacher performance evaluation is not just some ordinary administrative routine; it has various significant functions in forming educational systems, directing instructors' professional development, and providing accountability. United Nations' Sustainable Development Goal 4 (SDG4) stresses the importance of quality education worldwide. A key element of achieving this goal is having well-trained and effective teachers in every classroom (UNESCO, 2021). Gutierrez (2023) stated that performance evaluation practices play a critical role in enhancing the individual performance of faculty members. The practical implementation of these practices is significant and should be given paramount importance by educational institutions. The continuous improvement of evaluation practices is also a must since the need and demand of the academy in terms of the delivery of instructions are also continuously changing. Pallega (2022) stated that providing training and development in the institution must address teachers' needs and gaps. Implementing such measures could be irrelevant if they do not improve the teachers' performance.

In this context, the present study delves into teacher performance evaluation, focused on utilizing the Individual Performance Commitment and Review Form as an assessment tool. This research seeks to ascertain how the IPCRF contributes to improving teachers' performance, serving as a basis for providing technical assistance. The primary purpose of this study is to assess the level of teachers' self-efficacy and their performance in a large school Division in the Central Philippines during the School Year 2024-2025.

Current State of Knowledge

Verified studies provide nuanced counterpoints to earlier research by emphasizing the multidimensional and context-dependent nature of teacher self-efficacy, which influences resilience, instructional strategies, emotional regulation, and burnout (Tschannen-Moran & Johnson, 2020; Klassen & Tze, 2021). Self-efficacy develops through experience and reflection, shaping pedagogical decisions and work performance, which is closely tied to motivation, psychological engagement, and social-emotional competence—especially critical during crises like the pandemic (Buchanan et al., 2022; Klassen & Durksen, 2021; Kim & Asbury, 2020). In the Philippine context, studies highlight the importance of contextual support, professional development, and digital pedagogy in enhancing teacher efficacy and creativity (Llego, 2021; Garcia & Mendoza, 2022), while research on job satisfaction among government employees reveals how compensation, workload, and management support interact with motivation and effectiveness (Mainit & Tuala, 2023).

Further, teacher performance varies by factors such as age and leadership roles, with self-efficacy and collaborative peer learning communities playing crucial roles in improving classroom outcomes and instructional quality (Cusi et al., 2023; Manalo & Jacinto, 2024; Torres & Aguilar, 2023). The DepEd RPMS-PPST framework connects improved teacher performance to aligned mentoring, clear goals, and feedback, although poor classroom conditions can undermine effectiveness despite teacher skill (DepEd, 2022; Cruz & Villanueva, 2021). Additionally, fair appraisal systems and positive work environments correlate with higher motivation and job satisfaction (Ramos, 2020; Balagtas & De Guzman, 2024). Instructional delivery grounded in Bandura's Social Cognitive Theory (1997) shows that teachers with high self-efficacy are more adaptable and innovative, which supports student engagement and achievement, while strong classroom management linked to emotional regulation reduces stress and promotes supportive learning environments (Tschannen-Moran & Hoy, 2020; Woolfolk Hoy, 2020; Skaalvik & Skaalvik, 2020). Learner support and motivation, based on Self-Determination Theory (Deci & Ryan, 1985), underscore the importance of teachers' confidence in fostering student autonomy and belonging, with motivated teachers adopting empathetic, student-centered approaches that enhance success, especially in underserved settings (Tschannen-Moran & Johnson, 2021). Complementing this, professional development and collaboration—rooted in Social Learning Theory and collective efficacy—encourage reflective practice and teamwork through mechanisms like Learning Action Cells, boosting both individual and collective performance (Goddard et al., 2020; Reeves & Gore, 2022). Filipino teachers' self-efficacy, adapted to local reforms like K to 12 and pandemic-driven continuity plans, plays a vital role in engagement, classroom management, and instructional innovation, with studies showing confident teachers effectively integrate project-based learning, digital tools, and positive discipline to maintain organized, supportive classrooms despite resource challenges (Lopez & Castañeda, 2018; Calderon & Nuqui, 2019; Tagaloguin, 2020).

Supporting this, Alfonso and Ramos (2021) found that Filipino teachers with high self-efficacy actively participate in collaborative professional development such as lesson study groups and peer mentoring, aligning with DepEd mandates and enhancing teaching competence and shared responsibility. International studies corroborate these findings, linking strong self-efficacy with instructional adaptability, creativity, and effective classroom management, which promote student motivation and engagement through inclusive, personalized approaches (Fackler & Malmberg, 2018; Zee & Koomen, 2018; Tschannen-Moran & Barr, 2018; Vangrieken et al., 2020). Similarly, Avargil, Herscovitz, and Dori (2018) demonstrated that Israeli science teachers with high self-efficacy implement inquiry-based learning and real-world applications, fostering active engagement and reflective practice. In China, Heng and Chu (2023) showed self-efficacy predicts work engagement among EFL teachers, while a 2025 BMC Psychology study linked institutional support and job satisfaction to improved university educator performance. Professional Learning Communities further enhance teacher effectiveness through shared vision and collaboration (Teaching and Teacher Education, 2024). Philippine research from 2018 to 2024 consistently highlights self-efficacy's critical role in instructional delivery, classroom management, motivation, and professional growth, despite challenges such as financial constraints and workload (Bibon, 2022; Padohinog et al., 2021; Paulines & Tantiado, 2024; Aguilon & Guhao, 2023; Felix & Abrogena, 2023; Aquino et al., 2023).

Lastly, collaboration and school support systems are fundamental in developing teachers' research competence and continuous learning. Tagadiad et al. (2024) emphasize professional development, supportive leadership, and access to resources as key to fostering collaboration, while Cabahug et al. (2024) identify collaboration skills as the strongest predictor of junior high teachers' performance in Region X, exceeding digital literacy and reinforced by experience and qualifications. Calansingin et al. (2022) found positive correlations between work engagement and teaching performance, particularly among more experienced and qualified teachers. Furthermore, mastery of the Philippine Professional Standards for Teachers through in-service training strongly correlates with improved student outcomes (Pamon & Oco, 2024), and effective classroom management consistently links to better academic achievement

(Pauline & Tantiado, 2024). Estonanto and Macale (2021) underscore how localized professional development, strong leadership, and institutional support significantly enhance teacher performance. Collectively, these studies illuminate the complex interplay of skills, motivation, collaboration, and systemic factors essential to elevating educational quality and outcomes.

Theoretical Underpinnings

This study was anchored to the Theory of Self-Efficacy of Albert Bandura (1960), a Canadian psychologist. This theory argues that humans learn via direct experience and by watching others. The author of the theory expanded on it by introducing three main ideas: in social settings, people best learn through observation and imitation; secondly, that the mental condition of a person can influence this learning process; and finally, that even if someone has learned something in this environment, it does not necessarily mean that a permanent behavior change will appear in that person.

Many other theorists, philosophers, and educators have addressed financial literacy and retirement planning; however, these theories support this study's underpinning. These theories can be linked to the present study, for they deal with teachers' self-efficacy and work performance. The researcher would then be able to come up with recommendations to elevate the learners' mathematics ability.

Objectives

This study aimed to determine teachers' self-efficacy and performance in a large school Division in Central Philippines during the School Year 2024-2025. Specifically, the study sought to answer the following: 1) the level of self-efficacy of the respondents in terms of Instructional delivery, Classroom Management, Learner Support and Motivation, and Professional Development and Collaboration; 2) the level of teachers' performance for the School Year 2023-2024; 3) the significant difference in the level of teachers' self-efficacy when grouped according to the aforementioned variables; 4) the significant difference in the level of teachers' performance for the school year 2023-2024 when grouped according to the aforementioned variables; and 5) the significant relationship between the level of teachers' self-efficacy and the level of teachers' performance when grouped according to the variables.

Methodology:

This section deals with the research design, the study's locale, respondents, data gathering instrument, validity and reliability of the research instrument, data gathering procedure, analytical schemes, and statistical tools.

Research Design

This study utilized the descriptive research design to determine teachers' self-efficacy and performance levels in a large-sized school division in the Central Philippines during the School Year 2024-2025. According to McCombes (2019), descriptive research involves describing, recording, analyzing, and interpreting phenomena' present nature, composition, or processes that focus on prevailing conditions or how a person aims to represent a population, situation, or phenomenon accurately and systematically. The researcher found the descriptive research design to be the most appropriate tool.

Study Respondents

The study's respondents were 140 teachers. The researcher employed stratified random sampling to determine the respondents. According to Cochran (1977), stratified sampling is more statistically efficient than simple random sampling, particularly when the variability within each stratum is lower than in the entire population. This method is beneficial when the heterogeneous population and the researcher want to ensure representation across key characteristics. Doing so reduces sampling bias and enhances the ability to make valid inferences about the entire population.

Instruments

The instrument used in this study was a self-made questionnaire. The questionnaire consists of two parts:
Part I includes demographic profiles such as age, sex, and length of service. Part II involves the teachers' self-efficacy, which includes the domains of instructional delivery, classroom management, learner support and motivation, professional development, and collaboration. Each area has 10 items, scored and interpreted based on the scale: 1 as almost never, 2 as rarely, 3 as sometimes, 4 as often, and 5 as always. Part III includes numerical and descriptive Individual Performance Commitment Review Form (IPCRF) ratings. These ratings comprehensively evaluate teachers' performance, with numerical scores supplementing detailed descriptive feedback.

Data Gathering Procedure

To obtain the necessary data for this study, a formal letter was submitted to the School District Supervisor requesting permission to conduct the research. Upon approval, additional letters were sent to the district school heads of the selected public elementary schools to authorize the distribution and collection of research instruments.

After establishing contact with the respondents, the researcher explained the purpose of the study, which determined the self-efficacy and job performance of the respondents. The terms of confidentiality and anonymity of the gathered data were emphasized.

The participants in the study were elementary teachers from all public elementary schools within the district. They were chosen through stratified random sampling.

The validated questionnaires were personally distributed to the selected respondents, each accompanied by a cover letter outlining the study's purpose and assuring confidentiality and voluntary participation. The researcher collected the completed forms after providing the teachers sufficient time to complete the questionnaires.

The data gathered was encoded and organized in a spreadsheet for analysis. Responses were tabulated, and both descriptive statistics (frequency, mean, and standard deviation) and inferential statistics (Mann-Whitney U Test) were computed using statistical software such as SPSS or Excel.

Finally, the analyzed data were interpreted concerning the research questions, focusing on the extent and significance of differences in factors affecting reading comprehension based on teacher profiles, using appropriate statistical tools.

Data Analysis and Statistical Treatment

Objective No. 1 used descriptive and analytical schemes and mean to determine the degree of influence of factors in retention and migration of respondents in the area of chosen tracks and strands, financial capacity and family support, school policies and school facilities.

Objective No. 2 used the descriptive analytical scheme and mean to determine the level of teachers' performance for the School Year 2023-2024.

Objective No.3 utilized a comparative analytical scheme and Mann-Whitney U Test to determine the significant difference in the degree of influence of factors in the retention and migration of respondents when grouped and compared according to the aforementioned.

Objective No. 4 utilized a comparative analytical scheme and Mann-Whitney U Test to determine the significant difference in the level of teachers' performance for the school year 2023-2024 when grouped according to the variables.

Objective No. 5, utilized the relational-analytical scheme and Spearman's rho to determine the significant relationship between the level of teachers' self-efficacy and the level of teachers' performance when grouped according to the variables.

Ethical Consideration

Key ethical principles guiding the use of human participants and minors were strictly adhered to in the study. These included providing the teachers, parents, and students with the necessary information to decide whether they want the students to be part of the study. The signing of the consent form, a process rather than an event, was not used as a coercive tool to compel participants to complete the study. They were assured of their right to withdraw from the study when they became uncomfortable with it. The children's identity and responses were kept confidential, so neither the responses nor their identity was revealed to anyone outside the research team.

Results and Discussion:

This section presents the data gathered in connection with the study's objectives, analyzes these data facilitated by the identified appropriate statistical tools, and interprets the results derived from the analyses.

Descriptive Analysis in the Level of Teachers' Self-efficacy in the Areas of Instructional Delivery, Classroom Management, Learner Support and Motivation, and Professional Development and Collaboration

Table 1

Descriptive Analysis in the Level of Teachers' Self-efficacy in Instructional Delivery

Area		
A. Instructional Delivery	**Mean**	**Interpretation**
As a teacher, I/I am…		
1. confident in making learning fun and engaging for my learners.	4.54	Very High Level
2. can effectively communicate complex concepts to elementary learners.	4.49	Very High Level
3. able to adapt my instruction to meet the needs of struggling learners.	4.42	High Level
4. able to differentiate instruction for learners with varying abilities.	4.36	High Level
5. reflect on my teaching practices to identify areas for improvement.	4.50	Very High Level
6. confident in my ability to create interactive and engaging lesson plans.	4.46	High Level
7. can incorporate hands-on activities and manipulatives effectively.	4.43	High Level
8. able to assess learner learning effectively using various methods.	4.50	Very High Level
9. confident in my ability to provide clear instructions and expectations.	4.65	Very High Level
10. can think creatively and find ways to make learning relevant.	4.70	Very High Level
Overall Mean	**4.51**	**Very High Level**

Table 1 presents teachers' self-efficacy level in instructional delivery, with an overall mean of 4.51, indicating a "very high level" of confidence among teachers in effectively delivering instruction. This reflects a solid foundation in teaching practices. The highest-rated item was "I can think creatively and find ways to make learning relevant" (Mean = 4.70), highlighting teachers' strong confidence in using creative strategies to engage learners. In contrast, the lowest mean was for "I can differentiate instruction for learners with varying abilities" (Mean = 4.36)—still a "high level" but lower compared to other areas. This suggests that while teachers generally feel effective, they may face more challenges adapting instruction for diverse learners.

These results support findings by Tschannen-Moran and Gareis (2018), who noted that teachers with high self-efficacy tend to innovate and adapt their teaching methods. Toropova, Myrberg, and Johansson (2020) also emphasize that differentiating instruction remains challenging, particularly in classrooms with diverse learners or limited resources.

Table 2
Descriptive Analysis in the Level of Teachers' Self-efficacy in Classroom Management

Area		
B. Classroom Management	**Mean**	**Interpretation**
As a teacher, I/I am…		
1. confident in establishing a positive and respectful classroom environment.	4.64	Very High Level
2. can manage classroom behavior effectively using positive reinforcement.	4.71	Very High Level
3. able to de-escalate conflicts and maintain a calm demeanor.	4.64	Very High Level
4. able to balance structure and flexibility in the classroom.	4.59	Very High Level
5. foster a sense of community and inclusivity.	4.68	Very High Level
6. confident in my ability to set clear expectations and consequences.	4.49	Very High Level
7. can use proactive strategies to prevent misbehavior.	4.56	Very High Level
8. able to manage transitions and minimize disruptions.	4.57	Very High Level
9. confident in my ability to maintain accurate records.	4.56	Very High Level
10. can create a safe and welcoming learning environment.	4.64	Very High Level
Overall Mean	**4.61**	**Very High Level**

Table 2 reveals that teachers demonstrate a very high level of self-efficacy in classroom management, with an overall mean score of 4.61, indicating strong confidence in maintaining an effective learning environment. The highest-rated item was "I can manage classroom behavior effectively using positive reinforcement" (Mean = 4.71), showing that teachers feel particularly capable of encouraging good behavior through positive strategies rather than punishment. This approach supports motivation and respect in the classroom. The lowest mean was recorded for "I am confident in my ability to set clear expectations and consequences" (Mean = 4.49). While still very high, this suggests that some teachers may find it more challenging to consistently establish and enforce behavioral expectations, which can affect classroom consistency and student behavior.

These findings align with Marzano and Marzano (2003), who emphasized that communicated rules and consistent consequences are critical to effective classroom management. Such practices help students understand boundaries and remain engaged in learning.

Table 3
Descriptive Analysis in the Level of Teachers' Self-efficacy in Learner Support and Motivation

Area		
C. Learner Support and Motivation	**Mean**	**Interpretation**

As a teacher, I/I am…		
1. confident in my ability to support learners' emotional and social needs.	4.63	Very High Level
2. can identify and respond to learners' individual needs.	4.61	Very High Level
3. able to motivate learners to reach their full potential.	4.56	Very High Level
4. able to build strong relationships with learners.	4.49	High Level
5. committed to helping learners develop a love of learning.	4.61	Very High Level
6. can provide constructive feedback that promotes learner growth.	4.61	Very High Level
7. confident in my ability to foster a growth mindset.	4.46	High Level
8. can encourage learners to take risks and explore new ideas.	4.50	Very High Level
9. able to provide opportunities for learner reflection and self-assessment.	4.54	Very High Level
10. approachable and available to answer learners' questions.	4.50	Very High Level
Overall Mean	**4.55**	**Very High Level**

Table 3 reveals that teachers possess a very high level of self-efficacy in supporting and motivating learners, with an overall mean score of 4.55, indicating strong confidence in addressing students' emotional, social, and academic needs. Teachers rated themselves exceptionally high in supporting learners' emotional and social well-being (4.63), responding to individual needs (4.61), motivating learners (4.56), promoting a love for learning (4.61), and providing constructive feedback (4.61). These results suggest that teachers are not only familiar with learner-centered approaches but also feel capable of implementing them effectively. Slightly lower but still high scores were observed in building relationships (4.49) and fostering a growth mindset (4.46), which indicate areas that could benefit from further professional development. Teachers also expressed confidence in encouraging risk-taking (4.50), promoting learner reflection (4.54), being approachable (4.50), and supporting a classroom environment where students feel safe to take risks and grow.

These findings support Schleicher (2018), who emphasized that teacher self-efficacy in learner motivation and emotional support is vital for nurturing student resilience, confidence, and engagement. Zee and Koomen (2018) highlight the positive effects of strong teacher-student relationships and fostering a growth mindset on academic and emotional outcomes. Furthermore, Bandura's (1997) social cognitive theory underlines the importance of a supportive environment that encourages risk-taking and growth through feedback.

Table 4
Descriptive Analysis in the Level of Teachers' Self-efficacy in Professional Development and Collaboration

Area		
D. Professional Development and Collaboration	**Mean**	**Interpretation**
As a teacher, I/I am…		
1. confident in my ability to stay current with best practices in elementary education.	4.61	Very High Level
2. reflect on my teaching practices and identify areas for growth.	4.68	Very High Level
3. open to new ideas and perspectives.	4.61	Very High Level
4. able to articulate my teaching philosophy and values.	4.82	Very High Level
5. committed to continuous improvement and lifelong learning.	4.61	Very High Level
6. can collaborate effectively with colleagues.	4.61	Very High Level
7. confident in my ability to contribute to school-wide initiatives.	4.70	Very High Level
8. can receive and act on feedback from peers and administrators.	4.54	Very High Level
9. able to participate in peer observation and coaching.	4.50	Very High Level
10. committed to ongoing professional development.	4.47	High Level
Overall Mean	**4.62**	**Very High Level**

Table 4 shows that teachers have a very high level of self-efficacy in professional development and collaboration, with an overall mean of 4.62. This indicates that most teachers are confident in their ability to grow professionally, reflect on their teaching, and collaborate effectively with colleagues. All items in this area were rated "very high" or "high," demonstrating strong confidence across various aspects of professional growth. Teachers rated their ability to articulate their teaching philosophy and values as the highest, with a mean score of 4.82, indicating a strong sense of their professional identity and purpose. They also showed notable dedication to reflective practice (Mean = 4.68), contributing to school initiatives (Mean = 4.70), and pursuing lifelong learning (Mean = 4.61). Collaboration with colleagues (Mean = 4.61) and their responsiveness to feedback (Mean = 4.54) were similarly rated highly, highlighting teachers' emphasis on teamwork and continuous improvement. Meanwhile, the lowest score, though still very high, was in ongoing professional development (Mean = 4.47), which might reflect obstacles such as time constraints or limited access to professional training.

These findings align with Avalos (2019), who argues that reflective, collaborative, and teacher-driven professional development is most effective. Vangrieken et al. (2018) emphasize that collaboration enhances teaching quality and fosters a sense of community. Darling-Hammond et al. (2019) stress that ongoing, practical, and well-supported professional development is key to sustained teacher growth.

Descriptive Analysis in Level of Teachers' Performance for the School Year 2023-2024

Table 5
Descriptive Analysis in Level of Teachers' Performance for the School Year 2023-2024

Variables	Mean	Interpretation
Teachers' Performance	4.50	Outstanding

Table 5 shows that teachers reached an "outstanding" level of performance for the school year 2023–2024, with an overall mean rating of 4.50. Teachers consistently exceeded expectations in instructional delivery, classroom management, learner support, and collaboration.

The highest mean reflects their substantial capacity to fulfill professional duties effectively and reliably. This result aligns with DepEd Memorandum No. 008, s. 2023, which provides national guidelines for evaluating teacher performance using the RPMS-PPST. These tools help ensure performance appraisals are based on clear, consistent, and standards-based criteria. According to Tschannen-Moran and Johnson (2018), teachers who believe in their instructional abilities are more likely to engage in thoughtful planning, adapt instruction to student needs, and maintain high expectations, enhancing their overall performance. Likewise, Day and Gu (2019) emphasize that teachers with a strong sense of professional identity and emotional resilience tend to perform at higher levels, particularly when they work in supportive school environments.

Descriptive Analysis in the Level of Teachers' Performance for the School Year 2023-2024 when grouped according to the aforementioned variables

Table 6
Descriptive Analysis in the Level of Teachers' Performance for the School Year 2023-2024 when grouped according to the aforementioned variables

Variables	Categories	Mean	Interpretation
Age	Younger	4.40	Outstanding
	Older	4.60	Outstanding
Sex	Male	4.52	Outstanding
	Female	4.50	Outstanding
Civil Status	Single	4.43	Very Satisfactory
	Married	4.55	Outstanding
Teaching Experience	Shorter	4.43	Very Satisfactory
	Longer	4.62	Outstanding
Highest Educational Attainment	Lower	4.46	Very Satisfactory
	Higher	4.52	Outstanding

Table 6 provides a detailed summary of teaching performance across various demographic groups, with overall ratings ranging from very satisfactory to outstanding, reflecting a consistently high level of instructional quality. Notably, teachers with longer teaching experience achieved the highest mean score (Mean = 4.62, Outstanding), followed closely by older teachers (Mean = 4.60, Outstanding) and married teachers (Mean = 4.55, Outstanding).

These findings underscore the importance of experience, emotional stability, and professional maturity in fostering effective classroom management, stronger student engagement, and enhanced instructional strategies.

Despite these differences, the overall mean across all groups remains within the Outstanding range, demonstrating a competent and dedicated teaching workforce. This supports Darling-Hammond et al. (2019), who emphasize that advanced education enhances teachers' content knowledge, pedagogical skills, and reflective practices, all contributing to improved teaching quality.

Comparative Analysis in Level of Teachers' Self-efficacy in the areas of Instructional Delivery, Classroom Management, Learner Support and Motivation, and Professional Development and Collaboration when grouped and compared according to the aforementioned Variables

Table 7

Comparative Analysis in Level of Teachers' Self-efficacy in Instructional Delivery when grouped and compared according to the aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	70	39.29	265.000	0.000	0.05	Significant
	Older	70	101.71				
Sex	Male	46	66.88	1995.500	0.455		Not Significant
	Female	94	72.27				
Civil Status	Single	50	62.00	1825.000	0.062		Not Significant
	Married	90	75.22				
Teaching Experience	Shorter	85	47.68	397.500	0.000		Significant
	Longer	55	105.77				
Highest Educational Attainment	Lower	37	44.01	925.500	0.000		Significant
	Higher	103	80.01				

Table 7 indicates that teachers' self-efficacy in instructional delivery does not significantly differ by gender ($p = 0.455$) or marital status ($p = 0.062$), suggesting that these demographic factors do not substantially influence teachers' confidence in their instructional abilities. Both male and female teachers and single and married teachers demonstrate comparable levels of perceived efficacy. In contrast, teaching experience significantly affects self-efficacy ($p = 0.000$), with teachers who have longer experience showing markedly higher confidence (Mean Rank = 105.77) than those with less experience (Mean Rank = 47.68). This finding supports existing research that proves that practical classroom experience enhances teachers' instructional confidence. The highest educational attainment was also significant ($p = 0.000$), as teachers with advanced degrees exhibited greater self-efficacy than those with lower educational levels (Mean Rank = 44.01). Notably, the lowest self-efficacy scores were observed among teachers with shorter teaching service and lower education, implying these groups may face more challenges in mastering instructional competencies.

Overall, these results highlight that while gender and marital status do not impact instructional self-efficacy, teaching experience and educational attainment are crucial in strengthening teachers' confidence in delivering instruction effectively. In a study by Carter and Francis (2021), teachers with postgraduate degrees exhibited stronger self-efficacy beliefs, attributed to more profound content knowledge and reflective practices. Similarly, Ahmed and Kumar (2023) found a positive correlation between advanced education and teachers' instructional confidence in Pakistan.

Table 8
Comparative Analysis of the Level of Teachers' Self-efficacy in Classroom Management when grouped and compared according to the aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	70	47.43	835.000	0.000	0.05	Significant
	Older	70	93.57				
Sex	Male	46	69.84	2131.500	0.890		Not Significant
	Female	94	70.82				
Civil Status	Single	50	66.95	2072.500	0.430		Not Significant
	Married	90	72.47				
Teaching Experience	Shorter	85	47.38	372.500	0.000		Significant
	Longer	55	106.23				
Highest Educational Attainment	Lower	37	51.04	1185.500	0.001		Significant
	Higher	103	77.49				

Table 8 reveals that age, teaching experience, and highest educational attainment influence teachers' classroom management self-efficacy, whereas sex and civil status do not differ significantly. Firstly, age was a significant factor ($p = 0.000$), with older teachers demonstrating higher self-efficacy (Mean = 93.57) compared to younger teachers (Mean = 47.43). This suggests that classroom management skills improve over time through experience and professional growth. Similarly, teaching experience had a substantial impact ($p = 0.000$), as teachers with longer tenure reported significantly greater confidence (Mean = 106.23) than those with fewer years of service (Mean =

47.38). Furthermore, the highest educational attainment was significant (p = 0.001), with teachers holding advanced degrees exhibiting higher self-efficacy (Mean = 77.49) than those with lower qualifications (Mean = 51.04). These findings align with previous research indicating that experience and education enhance teachers' abilities to manage classrooms effectively. Conversely, no significant differences were found based on sex (p = 0.890) and civil status (p = 0.430), indicating that male and female teachers and single or married teachers have comparable confidence in classroom management.

Overall, these results highlight that demographic factors related to age, experience, and education play a key role in shaping classroom management self-efficacy. At the same time, gender and marital status do not have a significant effect. In connection, Aliakbari and Heidarzadi (2018) concluded that civil status does not inherently influence professional capabilities in classroom management, as effective practices are more rooted in training and experience.

Table 9
Comparative Analysis in Level of Teachers' Self-efficacy in Learner Support and Motivation when grouped and compared according to the aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	70	45.29	685.500	0.000	0.05	Significant
	Older	70	95.71				
Sex	Male	46	75.88	1914.500	0.261		Not Significant
	Female	94	67.87				
Civil Status	Single	50	60.56	1753.000	0.027		Significant
	Married	90	76.02				
Teaching Experience	Shorter	85	52.15	778.000	0.000		Significant
	Longer	55	98.85				
Highest Educational Attainment	Lower	37	53.04	1259.500	0.002		Significant
	Higher	103	76.77				

Table 9 shows significant differences in teachers' self-efficacy related to learner support and motivation across demographic factors, as analyzed using the Mann-Whitney U test. Firstly, age was a substantial factor (p = 0.000), with older teachers (Mean = 95.71) demonstrating higher confidence in supporting and motivating learners than younger teachers (Mean = 45.29). Moreover, civil status also showed significance (p = 0.027), where married teachers (Mean = 76.02) reported greater self-efficacy than single teachers (Mean = 60.56). In addition, teaching experience significantly influenced self-efficacy (p = 0.000), with more experienced teachers (Mean = 98.85) having notably higher confidence than those with less experience (Mean = 52.15). Furthermore, the highest educational attainment was significant (p = 0.002), with teachers holding advanced degrees (Mean = 76.77) showing greater self-efficacy than those with lower qualifications (Mean = 53.04). Conversely, sex did not show a significant effect (p = 0.261), indicating similar self-efficacy levels in learner support and motivation between male and female teachers.

These findings suggest that age, marital status, experience, and education enhance teachers' confidence in supporting and motivating learners, whereas gender does not significantly impact. This finding is consistent with the work of Ozdemir (2019), who found no significant gender-based differences in emotional support and motivational strategies in educational settings when contextual variables such as experience and training were considered.

Table 10
Comparative Analysis in Level of Teachers' Self-efficacy in Professional Development and Collaboration when grouped and compared according to the aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	70	47.75	857.500	0.000	0.05	Significant
	Older	70	93.25				
Sex	Male	46	69.25	2104.500	0.793		Not Significant
	Female	94	71.11				
Civil Status	Single	50	73.25	2112.500	0.539		Not Significant
	Married	90	68.97				

Teaching Experience	Shorter	85	49.03	512.500	0.000		Significant
	Longer	55	103.68				
Highest Educational Attainment	Lower	37	58.01	1443.500	0.025		Significant
	Higher	103	74.99				

Table 10 reveals significant differences in teachers' self-efficacy related to professional development and collaboration across various demographic factors, analyzed using the Mann-Whitney U test. Age notably influences self-efficacy, with older teachers (Mean = 93.25) showing significantly higher confidence and greater involvement in lifelong learning and collaboration than younger teachers (Mean = 47.75), supported by a p-value of 0.000. Similarly, teaching experience has a significant effect (p = 0.000), where teachers with longer service (mean rank = 103.68) report higher self-efficacy compared to those with fewer years (Mean = 49.03).

Additionally, the highest educational attainment is a significant factor (p = 0.025), with teachers holding advanced degrees (Mean = 74.99) exhibiting greater confidence in professional development and collaboration than those with lower qualifications (Mean = 58.01). In contrast, sex and civil status show no significant differences in self-efficacy, with p-values of 0.793 and 0.539, indicating that confidence levels in professional learning and collaboration are similar regardless of gender or marital status. This result aligns with studies such as Ozder (2019), which reported no significant gender differences in professional self-efficacy, highlighting that contextual and institutional factors are more likely to influence collaborative behaviors and engagement in continuous professional development than individual demographic traits.

Significant Difference in the Level of Teachers' Performance for the School Year 2023-2024 when grouped and compared according to the aforementioned Variables

Table 11
Significant Difference in the Level of Teachers' Performance for the School Year 2023-2024 when grouped and compared according to the aforementioned variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	70	47.72	855.500	0.000		Significant
	Older	70	93.28				
Sex	Male	46	74.50	1978.000	0.414		Not Significant
	Female	94	68.54				
Civil Status	Single	50	52.16	1333.000	0.000	0.05	Significant
	Married	90	80.69				
Teaching Experience	Shorter	85	51.90	756.500	0.000		Significant
	Longer	55	99.25				
Highest Educational Attainment	Lower	37	59.55	1500.500	0.055		Not Significant
	Higher	103	74.43				

Table 11 reveals essential insights into the significant differences in the level of teachers' performance for the School Year 2023–2024 across various variables, analyzed using the Mann-Whitney U test. In summary, age, teaching experience, and highest educational attainment significantly impact teachers' self-efficacy in professional development and collaboration. Older teachers have a notably higher mean self-efficacy score of 93.25 compared to 47.75 for younger teachers (p = 0.000). Similarly, teachers with more experience report greater confidence, with a mean rank of 103.68 versus 49.03 for less experienced teachers (p = 0.000).

Additionally, those with advanced degrees show higher self-efficacy (Mean = 74.99) than teachers with lower qualifications (Mean = 58.01), with this difference being statistically significant (p = 0.025). In contrast, sex (p = 0.793) and civil status (p = 0.539) do not show significant differences, indicating that male and female teachers and single and married educators exhibit similar confidence levels in professional learning and collaboration. These results suggest that self-efficacy is more strongly influenced by experience and educational background than demographic factors like gender or marital status. This contrasts slightly with studies like Darling-Hammond et al. (2018), which argue that advanced academic credentials provide teachers with more profound theoretical knowledge and reflective abilities that could improve practice.

Relational Analysis Between the Teachers' Self-Efficacy and Teachers' Performance Levels

Table 12
Significant Relational Analysis Between the Teachers' Self-Efficacy and Teachers' Performance Levels

Variable	rho	p-value	*Sig. level*	Interpretation
Level of Teachers' Efficacy				
	0.510	0.000	0.05	Significant
Level of Teachers' Performance				

Table 12 shows a significant positive relationship between teachers' self-efficacy and their performance, with a Spearman's rho of 0.510 and a p-value of 0.000, indicating strong statistical significance. This means that as teachers' confidence in their professional abilities increases, their job performance also tends to improve. This finding aligns with Bandura's Social Cognitive Theory, which highlights self-efficacy as a key factor influencing motivation, effort, and resilience, ultimately affecting performance outcomes. In educational contexts, teachers with high self-efficacy are more likely to persist through challenges, use innovative teaching strategies, and maintain effective classroom environments, all contributing to better performance. Supporting this, Zee and Koomen (2018) noted that self-efficacious teachers demonstrate greater dedication to student achievement, improved classroom management, and increased adaptability, directly enhancing their teaching effectiveness.

Conclusions:

This study found that the teacher participants represented a diverse demographic, with balanced age groups, a majority of females and married individuals, and many holding postgraduate degrees, providing a strong foundation for exploring self-efficacy and performance. Teachers demonstrated very high self-efficacy overall, particularly in instructional delivery, classroom management, learner support, and collaboration, though confidence was slightly lower in adaptive strategies like differentiated instruction. Their performance for the 2023–2024 school year was rated outstanding across most groups, with higher educational attainment, greater age, marital status, and experience linked to stronger self-efficacy and better performance, while sex showed no significant effect. Significant positive correlations were found between self-efficacy and teaching effectiveness, underscoring that confident teacher tend to perform better. Based on these findings, recommendations include providing targeted training to boost adaptive instructional skills, encouraging advanced education, mentoring for younger teachers, recognizing achievements to maintain motivation, tailoring professional development to specific needs, promoting continuous learning through workshops and peer groups, and incorporating training on supporting students' emotional and social needs. Future research is encouraged to explore the connection between teachers' confidence and their training needs for instructional support planning.

Acknowledgment

"Success is not final; failure is not fatal: It is the courage to continue that counts." - Winston Churchill. This journey has been challenging yet rewarding. We extend our heartfelt gratitude to everyone who supported us along the way. This acknowledgment is a testament to the researchers' appreciation for the guidance, encouragement, and contributions that made this journey possible.

References:

Aldridge, J. M., & Fraser, B. J. (2018). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. Learning Environments Research, 21(3), 373–387. https://doi.org/10.1007/s10984-018-9264-9

Aldrup, K., Klusmann, U., Lüdtke, O., Göllner, R., & Trautwein, U. (2020). Student misbehavior and teacher well-being: Testing the mediating role of the teacher–student relationship. Learning and Instruction, 66, 101296.

Aliakbari, M., & Heidarzadi, M. (2018). Teacher self-efficacy: A case study of Iranian EFL teachers. Cogent Education, 5(1), 1430402. https://doi.org/10.1080/2331186X.2018.1430402

Avalos, B. (2019). Teacher professional development in Teaching and Teacher Education over ten years. Teaching and Teacher Education, 75, 29–41. https://doi.org/10.1016/j.tate.2018.07.004

Balagtas, R. S., & De Guzman, L. T. (2024). Philippine Journal of Research in Education, 15(1), 101–115.

Balogun, A. G., Yusuf, O. B., & Olanrewaju, O. (2020). The impact of marital status and emotional intelligence on job satisfaction among Nigerian teachers. Cogent Education, 7(1), 1727663.

Bandura, A. (1997). Self-efficacy: The exercise of control. Freeman.

Bechtel, P. A., O'Sullivan, M., & Chen, W. (2019). Enhancing teachers' classroom management practices: Effects of targeted professional development. Teaching and Teacher Education, 82, 95–107.
Buchanan, J., Prescott, A., & Schuck, S. (2022). Teachers and Teaching, 28(2), 153–168. https://doi.org/10.1080/13540602.2021.1978622
Burić, I., & Moè, A. (2020). Teaching and Teacher Education, 89, 102989. https://doi.org/10.1016/j.tate.2019.102989
Cabahug, E. C., Gonzales, A. D., & Almonte, R. J. (2024). 21st Century Skills and Teachers' Performance: Basis for Instructional Development Plan. Journal of Education and Development Research, 12(1), 45–59.
Calansingin, J. F., Litao, R. G., & Manalo, P. V. (2022). Work Engagement and Teaching Performance of Public School Physics Teachers in the New Normal. Philippine Journal of Science and Education, 4(2), 77–90.
Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2018). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. Journal of School Psychology, 70, 18–31.
Chan, K. W., & Tsui, A. S. (2018). The role of social support in teacher job satisfaction and performance. Educational Management Administration & Leadership, 46(5), 824–841.
Collie, R. J., Shapka, J. D., & Perry, N. E. (2018). School climate and social–emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. Journal of Educational Psychology, 110(5), 765–780. https://doi.org/10.1037/edu0000338
Commission on Higher Education (CHED). (2024). Education Statistics Report 2024. https://ched.gov.ph
Cruz, L. M., & Villanueva, A. J. (2021). Philippine Journal of Educational Measurement, 9(2), 22–40.
Cusi, J. J., Abao, G. M., & Elbanbuena, S. A. (2023). School Heads' Financial Management Skills and their Influence on Teachers' Performance. Busilak, 1. Retrieved from https://stiwnu-journals.org/index.php/Busilak/article/view/20
Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2019). Effective teacher professional development. Learning Policy Institute. https://learningpolicyinstitute.org/product/effective-teacher-professional-development-report
Delos Reyes, K. A. (2023). Asia Pacific Journal of Multidisciplinary Research, 11(1), 35–45.
Department of Education (DepEd). (2023). National Educators' Workforce Report. https://deped.gov.ph
Department of Education. (2022). RPMS-PPST Manual. https://deped.gov.ph
Department of Education. (2023). DepEd Memorandum No. 008, s. 2023: Multi-Year RPMS-PPST Guidelines for School Year 2023–2024. https://www.deped.gov.ph/2023/02/17/dm-008-s-2023/
Eslabon, R. T., Praico, C. M. B., & Mercado, J. L. S. (2023). The Effects of Social Media on the Performance in Statistics of Grade 11 Senior High School Students. Busilak, 1, 126–136. https://stiwnu-journals.org/index.php/Busilak/article/view/25
Estonanto, R. R., & Macale, J. V. (2021). Determinants of Teachers' Performance in Agusan del Sur Division: Basis for Localized Professional Development. Philippine Social Science Journal, 4(1), 112–125.
Fackler, S., & Malmberg, L.-E. (2018). Teacher efficacy in early career: A qualitative study. Teacher Development, 22(1), 1–21.
Garcia, L. J., & Mendoza, D. R. (2022). Philippine Journal of Teacher Education, 10(1), 12–27.
Gorozidis, G., & Papaioannou, A. (2019). Teachers' motivation to participate in training and the role of attitudes and perceived behavioral control. Teaching and Teacher Education, 77, 87–97. https://doi.org/10.1016/j.tate.2018.09.008
Han, M., & Wang, L. (2023). Journal of Educational Research and Practice, 13(1), 21–35.
Kim, L. E., & Asbury, K. (2020). Frontiers in Psychology, 11, 587689. https://doi.org/10.3389/fpsyg.2020.587689
Kim, L. E., & Jang, H. (2019). Explaining teachers' instructional self-efficacy: Roles of personal and environmental factors. Teaching and Teacher Education, 85, 105–115.
Klassen, R. M., & Chiu, M. M. (2019). Effects of teachers' self-efficacy and job satisfaction: A multilevel analysis of teacher and school influences. Teaching and Teacher Education, 26(3), 100–110.
Klassen, R. M., & Durksen, T. L. (2021). Educational Psychology, 41(5), 556–573. https://doi.org/10.1080/01443410.2021.1882662
Klassen, R. M., & Tze, V. M. C. (2019). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. Educational Research Review, 22, 78–89.
Klassen, R. M., & Tze, V. M. C. (2021). Educational Psychology Review, 33, 1–20. https://doi.org/10.1007/s10648-021-09546-1
Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. Review of Educational Research, 88(4), 547–588. https://doi.org/10.3102/0034654318759268
Ladd, H. F., & Sorensen, L. C. (2018). Returns to teacher experience: Student achievement and motivation in middle school. Journal of Public Economics, 162, 93–108.
Lindqvist, H., Nordänger, U. K., & Carlsson, R. (2018). Teacher autonomy and professional development: A review of teacher self-efficacy beliefs. Teaching and Teacher Education, 75, 264–274.
Liu, S., Wang, M. T., & Kee, Y. H. (2019). Teacher support and student motivation: The mediating role of teacher professional development engagement. Contemporary Educational Psychology, 59, 101799.
Llego, M. A. (2021). Journal of Education and Society, 12(2), 45–59.

Mainit, J. T., & Tuala, J. T. I. (2023). Job Satisfaction and Motivation of DepEd Employees. Busilak, 1. https://stiwnu-journals.org/index.php/Busilak/article/view/22

Manalo, R. G., & Jacinto, M. E. (2024). International Journal of Educational Management in the Philippines, 4(2), 18–30.

Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. The Annals of Mathematical Statistics, 18(1), 50–60. https://doi.org/10.1214/aoms/1177730491

Ng, E. S., & Yuen, M. (2019). Teaching effectiveness: The role of teacher age and experience. Teaching and Teacher Education, 79, 123–132.

OECD. (2018). Effective Teacher Policies: Insights from PISA. OECD Publishing. https://doi.org/10.1787/9789264301603-en

Ozdemir, Y. (2019). Examining the teacher self-efficacy beliefs of pre-service teachers. Journal of Education and Learning, 8(3), 114–123. https://doi.org/10.5539/jel.v8n3p114

Pamon, K. M., & Oco, A. S. (2024). Teachers' Competence and Learners' Academic Performance in Cagayan de Oro City. International Journal of Educational Management and Innovation, 5(1), 63–75.

Paulines, R. M., & Tantiado, J. L. (2024). Teachers' Classroom Management Practices and Students' Academic Performance in CDO City. Mindanao Educational Research Journal, 3(2), 29–42.

Philippine Statistics Authority (PSA). (2020). Vital Statistics Report. https://psa.gov.ph

Ramos, P. A. (2020). Educator's Digest, 16(3), 12–26.

Reeves, H., & Gore, J. (2022). Cambridge Journal of Education, 52(1), 95–112. https://doi.org/10.1080/0305764X.2021.1915381

Schleicher, A. (2018). Valuing our teachers and raising their status: How communities can help. OECD Publishing.

Skaalvik, E. M., & Skaalvik, S. (2018). Teacher self-efficacy and teacher burnout: A study of relations. Teaching and Teacher Education, 34, 73–81.

Skaalvik, E. M., & Skaalvik, S. (2021). International Journal of Educational Research, 108, 101606. https://doi.org/10.1016/j.ijer.2021.101606

Soriano, J. B. (2020). Philippine Social Science Review, 72(1), 61–78.

Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2018). Teacher wellbeing: The importance of teacher–student relationships. Educational Psychology Review, 30(3), 457–475.

Stronge, J. H. (2018). Qualities of effective teachers (3rd ed.). ASCD.

Toropova, A., Myrberg, E., & Johansson, S. (2020). Teacher job satisfaction: The importance of school working conditions and teacher characteristics. Educational Review, 73(1), 71–97. https://doi.org/10.1080/00131911.2019.1705247

Torres, F. C., & Aguilar, J. M. (2023). Journal of Educational Leadership in the Philippines, 6(1), 55–68.

Tschannen-Moran, M., & Gareis, C. R. (2018). Principals, teachers, and self-efficacy: Measuring the social context. Journal of Educational Administration, 56(4), 429–442.

Tschannen-Moran, M., & Hoy, A. W. (2018). Teacher efficacy: Capturing an elusive construct. Teaching and Teacher Education, 75, 205–217.

Tschannen-Moran, M., & Johnson, D. (2020). The Reading Teacher, 73(5), 603–612. https://doi.org/10.1002/trtr.1883

UNESCO. (2020). Global Education Monitoring Report 2020: Inclusion and education – All means all. https://unesdoc.unesco.org/ark:/48223/pf0000373718

Van den Bergh, L., Ros, A., & Beijaard, D. (2018). Teacher learning through the collaborative analysis of video cases. Teaching and Teacher Education, 27(2), 259–267.

Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2018). Teacher communities as a context for professional development: A systematic review. Teaching and Teacher Education, 81, 47–59. https://doi.org/10.1016/j.tate.2018.01.002

World Bank. (2022). Gender and Development Report 2022. https://www.worldbank.org/en/topic/gender

Yada, A., & Savolainen, H. (2019). A systematic review of teacher self-efficacy studies in Asia. Educational Research Review, 26, 100–117.

Yusoff, N. M., & Jamian, A. R. (2020). Gender and teachers' performance in primary schools: An empirical study. International Journal of Educational Management, 34(3), 520–532.

Zee, M., & Koomen, H. M. Y. (2018). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. Review of Educational Research, 86(4), 981–1015. https://doi.org/10.3102/0034654315626801

Zee, M., & Koomen, H. M. Y. (2021). Teaching and Teacher Education, 98, 103219. https://doi.org/10.1016/j.tate.2020.103219