

Teachers' Attributes and Capabilities in the Delivery of the New K-10 Curriculum in Selected Junior High Schools in the Division of Manila

Nilo G. Salazar

DepEd, Pres. Sergio Osmeña Sr High School, Manila, Philippines

Publication history: Received: April 7, 2026; Revised: April 18, 2026; Accepted: April 22, 2026

Email of Author: nilosalar001@deped.gov.ph

Abstract

This study examined the attributes and capabilities of Grade 7 and 8 teachers in delivering the MATATAG K–10 curriculum in selected public secondary schools in the Schools Division Office of Manila. Anchored on Keane's Theory of Action and supported by pedagogical content knowledge frameworks, the study utilized a descriptive-correlational research design to analyze the relationships between teachers' profile variables, professional attributes, and instructional capabilities. A total of 156 teachers were selected through purposive and multistage proportionate sampling. Data were collected using a validated researcher-developed questionnaire with a reliability coefficient of 0.86 and were analyzed using descriptive statistics and Pearson Product–Moment Correlation. Findings revealed that teachers demonstrated high to very high levels across all attributes, particularly in passion for teaching, emotional intelligence, and creative problem-solving, and were highly capable in content knowledge and pedagogy, diversity of learners and assessment, curriculum and planning, and community engagement. Most profile variables were not significantly related to teacher capabilities, except for highest educational attainment and present position in selected domains. In contrast, all teacher attributes showed strong and significant relationships with all capability areas, indicating that professional attributes are key determinants of instructional effectiveness. The study concludes that strengthening teacher attributes is essential for effective curriculum implementation and recommends sustained professional development, advanced academic pursuit, and structured support systems for teachers. This study aligns with SDG 4 (Quality Education) by promoting teacher quality and effective instruction, and supports SDG 8 (Decent Work and Economic Growth) through the development of competent educators. The findings contribute to educational and institutional sustainability by informing policy, enhancing teacher development, and improving instructional practices that support long-term learning outcomes.

Keywords: Attributes, Capabilities, Curriculum Implementation, K to 10 Curriculum, Teacher Development, Teacher Profile

1. Introduction

The successful implementation of the MATATAG K–10 curriculum in the Philippines depends largely on teachers' attributes and capabilities in delivering quality, learner-centered instruction. Despite ongoing reforms, persistent low performance in international assessments highlights the need to examine how teacher competencies translate into classroom practices and student outcomes. This study focuses on Grade 7–8 teachers in DepEd Manila, assessing how their professional attributes and capabilities support effective curriculum delivery during the early phase of MATATAG implementation.

1.1 Background of the Study on Grade 7–8 K–10 Teacher Attributes and Capabilities

The implementation of the K to 10 Curriculum under the Philippine K to 12 Basic Education Program relies not only on curriculum design but significantly on teacher competence and readiness. Teachers play a central role in developing learners equipped with 21st-century skills and lifelong learning capacities. However, the Philippines continues to perform poorly in global assessments, with PISA 2022 scores of 355 in mathematics, 347 in reading, and 356 in science, indicating persistent learning gaps (OECD, 2023; ABS-CBN News, 2023). The MATATAG K–10 curriculum, introduced through DO 010, s. 2024, aims to improve foundational skills by decongesting content and emphasizing mastery (Department of Education, 2024). Its success depends on teachers' ability to adapt instruction, integrate competencies, and respond to diverse learning needs. Teachers are expected to be multi-literate, multi-specialist, multi-skilled, self-directed, lifelong learners, and flexible in teaching environments. Empirical studies emphasize these competencies. Gonzales (2016) highlighted the role of digital and instructional literacies in developing 21st-century skills, while Tindowen, Bassig, and Cagurangan (2017) found that critical thinking and instructional flexibility predict effective teaching. Orlanda-Ventayen (2020) linked self-directed learning to instructional readiness, and Dela Cruz (2019) identified emotional intelligence as a key factor in classroom effectiveness. Teacher motivation also strengthens resilience during reforms (Salazar-Clemeña, 2014). These expectations are institutionalized through the Philippine Professional Standards for Teachers (DepEd Order

No. 42, s. 2017) and DepEd policies (DepEd, 2012). Despite these frameworks, limited evidence exists on how these attributes manifest among Grade 7–8 teachers in Manila during MATATAG implementation, necessitating this study.

1.2 Themes and Insights from Related Literature on K–10 Teacher Attributes and Capabilities

Literature identifies key attributes essential for effective K–10 teaching. Multi-literacy, including digital, assessment, and cultural literacy, is necessary for engaging diverse learners (UNESCO, 2018; Stiggins, 2017, 2018; Gay, 2010, 2018; Ladson-Billings, 1995). Multi-specialization is supported by pedagogical content knowledge, enabling teachers to translate subject matter effectively (Shulman, 1986; Ball, Thames, and Phelps, 2008; DepEd, 2012/2019). Multi-skilled teachers demonstrate competencies in classroom management, assessment, and ICT integration, which significantly influence student outcomes (Marzano, Marzano, and Pickering, 2003; UNESCO, 2018; DepEd, 2017). Self-directed and lifelong learning are also critical, as professional growth enhances instructional adaptability (OECD, 2019; NCES, 2019; Danielson, Furman, & Kappes, 2024). Instructional flexibility and adaptive teaching practices are strongly associated with improved learning outcomes (Hattie, 2009/2011; Ho & Gan, 2023). Creative problem-solving and critical thinking enable teachers to design responsive learning experiences (Mishra and Koehler, 2006; Danielson et al., 2024). Teacher passion and enthusiasm positively influence student performance (Ho and Gan, 2023), while emotional intelligence supports classroom management and student engagement (Hamre and Pianta, 2001; Marzano and Marzano, 2003; Korpershoek et al., 2016). Collectively, these studies emphasize that teacher attributes directly influence instructional effectiveness and student learning outcomes.

1.3 Local, National, and Global Context of K–10 Curriculum Implementation

Globally, education systems emphasize teacher competence as a key determinant of student achievement. International frameworks such as OECD TALIS and UNESCO ICT-CFT highlight the importance of continuous professional development and adaptive teaching (OECD, 2019; UNESCO, 2018). Nationally, the K to 12 reform and MATATAG curriculum aim to address systemic learning gaps and align Philippine education with global standards. The curriculum emphasizes foundational skills, learner-centered approaches, and contextualized instruction (Abragan et al., 2022; Department of Education, 2024). However, implementation challenges persist, including teacher readiness, resource limitations, and uneven ICT integration. Locally, DepEd Manila faces diverse classroom contexts requiring teachers to adapt instruction to varied learner needs. The early implementation phase of MATATAG in Grades 7–8 represents a critical stage for evaluating teacher effectiveness and curriculum delivery.

1.4 Theoretical or Conceptual Basis of Teacher Attributes and Capabilities

This study is anchored on Keane’s Theory of Action, which explains how professional learning influences teaching practices and ultimately student outcomes. The theory emphasizes a causal chain where improved teacher knowledge leads to enhanced classroom practices and better learning results, provided all components are effectively implemented. This framework aligns with Shulman’s Pedagogical Content Knowledge, which highlights the integration of content and pedagogy (Shulman, 1986), and with broader pedagogical knowledge models (Depaepe et al., 2020). It is further supported by perspectives emphasizing adaptive expertise and professional knowledge development (Darling-Hammond et al., 2017; Ali Lijen, 2022). The framework also integrates competence models that combine knowledge, beliefs, and skills into observable teaching practices, reinforcing the connection between teacher attributes and instructional outcomes.

1.5 Research Gaps and Rationale

While extensive literature highlights the importance of teacher attributes and competencies, limited research examines how these characteristics specifically influence curriculum delivery during the MATATAG rollout. Existing studies focus broadly on teacher competence but provide insufficient evidence on Grade 7–8 teachers in DepEd Manila. Given the Philippines’ continued low PISA performance and the ongoing curriculum reform, there is a need to assess how teacher attributes such as multi-literacy, flexibility, and emotional intelligence relate to their instructional capabilities. This study addresses this gap by examining these relationships and providing evidence-based recommendations for professional development.

1.6 Alignment with Relevant Sustainable Development Goals (SDGs)

This study aligns with SDG 4 – Quality Education by focusing on improving teacher quality and instructional effectiveness to enhance student learning outcomes under the MATATAG K–10 curriculum. It also supports SDG 8 – Decent Work and Economic Growth, as strengthening foundational skills in education contributes to the development of a competent and productive workforce. Additionally, the study relates to SDG 9 – Industry, Innovation and Infrastructure through its emphasis on digital literacy and innovative teaching practices among teachers. By examining teacher attributes and capabilities, the research contributes to advancing inclusive, equitable, and high-quality education that is essential for sustainable national development.

1.7 Importance of the Study to Multidisciplinary Sustainability

This study contributes to educational sustainability by enhancing teacher effectiveness and improving learning outcomes. It supports socio-economic sustainability by preparing learners with competencies needed for future employment and productivity. It also contributes to institutional sustainability by informing DepEd policies and professional development programs. Additionally, the study supports community sustainability, as improved teaching practices benefit learners, families, and local communities. By strengthening teacher attributes and capabilities, the research promotes long-term improvements in educational systems and societal development.

2. Material and methods

2.1 Research Design

The study employed a descriptive-correlational research design to determine teacher attributes and examine relationships between teachers' profiles, attributes, and capabilities. This design allowed the systematic collection of data on existing conditions, practices, and competencies without manipulating the research environment. It provided a comprehensive description of teachers' professional characteristics and instructional practices, which is essential in educational research focused on real-world teaching contexts. The appropriateness of this design is supported by Calderon (2011), who stated that descriptive methods are suitable for describing situations as they exist and exploring relationships among variables.

2.2 Locale of the Study

The study was conducted in selected public secondary schools within the Schools Division Office (SDO) of Manila during the School Year 2025–2026. These schools are implementing the MATATAG K to 10 curriculum, and the locale represents diverse urban educational settings where teachers handle multiple subject areas and learner profiles. The setting is significant because it reflects real classroom conditions during the early phase of curriculum implementation, providing a relevant context for assessing teacher attributes and capabilities.

2.3 Respondents of the Study

The respondents consisted of public junior high school teachers teaching Grade 7 and Grade 8 under the MATATAG K to 10 curriculum. These teachers were directly involved in classroom instruction across subject areas such as English, Mathematics, Science, Filipino, Araling Panlipunan, MAPEH, and Technology and Livelihood Education. They varied in demographic characteristics, including age, sex, civil status, highest educational attainment, present position, and years in service. Their professional attributes included being multi-literate, multi-specialist, multi-skilled, self-directed, lifelong learners, flexible, creative problem solvers, critical thinkers, passionate about teaching, and possessing high emotional quotient. Their capabilities were assessed in terms of content knowledge and pedagogy; diversity of learners and assessment and reporting; curriculum and planning; and community linkages, professional development, and personal growth. These respondents were selected because they are frontline implementers of the curriculum and provide direct insight into instructional practices during its early implementation.

2.4 Sample and Sampling Procedure

The population consisted of Grade 7 and Grade 8 teachers in public secondary schools within SDO Manila. A sample of 156 teachers was included in the study, considered sufficient for generating reliable descriptive and inferential data. In another stage of the sampling procedure, a total of 158 teachers were selected from a population of 526, ensuring adequate representation across schools and districts. The study utilized purposive sampling to select participants who met specific criteria, including being public secondary school teachers assigned to Grade 7 or Grade 8 and actively implementing the MATATAG curriculum during the study period. This ensured that respondents were information-rich and directly relevant to the research objectives. Additionally, a multistage proportionate sampling technique was applied. Initially, two schools from each district were selected to represent the population. Subsequently, approximately 30% of teachers from each selected school were included, ensuring proportional representation relative to school size. This approach enhanced the representativeness and relevance of the sample while maintaining feasibility in data collection.

2.5 Research Instrument

A researcher-developed questionnaire served as the primary data collection tool. It consisted of three parts: the first gathered demographic profile information, the second measured teacher attributes such as multi-literacy, flexibility, and emotional intelligence, and the third assessed teacher capabilities in curriculum delivery across key domains. The instrument underwent a rigorous validation process, beginning with review by the research adviser and subsequent evaluation by a panel of experts. Their feedback was incorporated until final approval was obtained. Reliability testing was conducted through a pilot study involving 16 teachers with similar characteristics to the target respondents. The instrument achieved a Cronbach's Alpha coefficient of 0.86, indicating high internal consistency and reliability. Informal interviews were also conducted to supplement survey data and provide additional context.

2.6 Data Gathering Procedure

Data collection followed a structured and sequential process. Approval was first secured from the Graduate School Dean, followed by permission from the Schools Division Office of Manila and school principals. Once authorized, the validated questionnaire was administered through a Google Form distributed via digital platforms. Respondents were provided with an informed consent statement explaining the purpose of the study, confidentiality measures, voluntary participation, and their right to withdraw at any time. Data collection was conducted over a two-week period, after which responses were retrieved and organized. The collected data were exported to Google Sheets for cleaning, including checking for missing or duplicate entries. All responses were anonymized and coded before analysis to ensure confidentiality. The processed data were then prepared for statistical treatment.

2.7 Data Analysis Techniques

Descriptive and inferential statistical methods were used to analyze the data. Frequency counts and percentages were applied to describe respondents' demographic profiles. Means and standard deviations were computed to assess teacher attributes and capabilities. To determine relationships among variables, the Pearson Product-Moment Correlation Coefficient (r) was used at a significance level of $\alpha = 0.05$. This statistical test enabled the identification of significant relationships between teacher profiles, attributes, and capabilities. The results provided evidence-based insights for improving teacher training and professional development programs.

2.8 Ethical Considerations

The study adhered to ethical standards in research involving human participants. Informed consent was obtained from all respondents, ensuring voluntary participation and the right to withdraw without penalty. Confidentiality and anonymity were maintained by coding responses and avoiding the use of personal identifiers. Data were securely stored and used solely for academic purposes in compliance with the Data Privacy Act of 2012. The study ensured respect for participants, avoided harm, and aimed to contribute positively to teacher development and curriculum implementation. Necessary approvals were obtained from relevant authorities, and proper citation practices were followed to uphold academic integrity.

3. Results and Discussion

3.1 Teacher Profile, Attributes, and Capabilities in K–10 Implementation

3.1.1 Profile of Teachers in Terms of Age, Gender, Civil Status, Education, Position, and Experience

The findings show that the largest proportion of respondents belonged to the 26–30 age group, followed by those aged 20–25 and 41–45, while the smallest group was composed of teachers aged 51 and above. In terms of gender, the majority of respondents were female, significantly outnumbering male teachers. Most respondents were married. Regarding educational attainment, the largest group had units in a master's degree, followed by those holding bachelor's degrees, completed master's degrees, and a small proportion with doctoral units. In terms of rank, most respondents were Teacher I, with fewer occupying higher positions such as Teacher II, Teacher III, and Master Teacher levels. In terms of years of service, the majority had 11–15 years of teaching experience, with smaller groups having shorter or longer service durations. These findings suggest that the teaching workforce is composed largely of early- to mid-career professionals who are actively pursuing further academic qualifications. The dominance of Teacher I positions indicates that many respondents are still in the developmental stages of their careers. This profile implies that teachers are in a phase where professional growth, skill enhancement, and continuous learning are critical. The results also suggest that teaching effectiveness may be more influenced by professional development and educational attainment than by demographic characteristics such as age or gender.

3.1.2 Multi-Literate Attribute of Teachers

The results indicate that teachers are highly multi-literate, with strong competencies in promoting literacy, using varied instructional strategies, and integrating digital resources. Among these indicators, the highest rating was observed in the integration of media and digital tools, followed by promoting literacy through printed materials, while the use of varied strategies, though still high, received comparatively lower ratings. These findings demonstrate that teachers are well-equipped to navigate both traditional and digital forms of literacy, reflecting adaptability to modern teaching demands. This aligns with the concept of multiliteracies, which emphasizes the importance of integrating multiple modes of communication in teaching. UNESCO highlights that literacy extends beyond reading and writing to include digital and media competencies, reinforcing the observed high levels of teacher literacy. Studies such as Dasal (2025) and Orivida & Nabos (2024) further support that digital literacy significantly enhances ICT integration, although the slightly lower rating in varied strategies suggests opportunities for expanding instructional diversity.

3.1.3 Multi-Specialist Attribute of Teachers

Teachers were rated highly as multi-specialists, particularly in guiding learners' understanding, relating lessons to real-life experiences, and integrating various learning areas. They also demonstrated knowledge beyond their specific subject areas. These results indicate that teachers are capable of delivering interdisciplinary instruction and connecting concepts across

domains. This reflects strong pedagogical content knowledge and supports holistic learning. Studies by Wu et al. (2024), Kanmaz (2022), and Sørensen and Stenalt (2025) confirm that interdisciplinary teaching enhances conceptual understanding and learner engagement. The findings suggest that teachers are not limited to subject-specific instruction but are able to synthesize knowledge across disciplines, which is essential in the K to 10 curriculum.

3.1.4 Multi-Skilled Attribute of Teachers

The findings reveal that teachers are highly multi-skilled, particularly in introducing diverse teaching approaches, managing varied learning activities, and responding to curriculum demands. This suggests that teachers possess a broad range of competencies necessary for effective teaching in dynamic classroom environments. The ability to manage multiple instructional tasks and adapt to changing demands reflects strong professional capability. This is supported by Insorio (2024), Fischer et al. (2025), and Metsäpelto et al. (2021), who emphasize that effective teaching requires a combination of cognitive, technical, and interpersonal skills.

3.1.5 Self-Directed Attribute of Teachers

Teachers demonstrated high levels of self-direction, particularly in sharing new knowledge, supporting holistic learner development, and taking initiative in achieving instructional goals. This indicates that teachers are proactive and autonomous in their professional practice. They take responsibility for their growth and actively apply new knowledge in teaching. Studies by Botha and Blignaut (2025), Christodouloulopoulos (2025), and Mohiyeddini (2024) support that self-directed teachers are more adaptable and capable of responding to evolving educational demands.

3.1.6 Lifelong Learning Attribute of Teachers

The results show that teachers exhibit strong lifelong learning tendencies, particularly in applying and sharing knowledge, although they are slightly less consistent in actively seeking new learning opportunities. This suggests that teachers value continuous learning but may rely more on applying existing knowledge than actively pursuing new opportunities. This aligns with Koç (2024) and UNESCO perspectives, which emphasize the importance of continuous professional development in adapting to modern educational challenges.

3.1.7 Flexibility of Teachers

Teachers were rated highly flexible, particularly in transitioning to learner-centered instruction and adjusting strategies to meet diverse learner needs. This indicates strong adaptability and responsiveness in teaching practices. Flexible teachers are better able to accommodate different learning styles and maintain effective instruction under varying conditions. Studies by Lübke, Pinquart, and Schwinger (2021) and Parsons et al. (2018) support that instructional flexibility enhances student engagement and learning outcomes.

3.1.8 Creative Problem-Solving Attribute of Teachers

Teachers demonstrated very high levels of creative problem-solving, particularly in resolving classroom issues fairly and maintaining instructional quality despite constraints. This reflects strong innovation and adaptability in addressing challenges. Teachers are capable of generating solutions and maintaining effective instruction even under pressure. Research by Skrbinjek et al. (2024), Zhan, He, and Zhong (2024), and Charoentham et al. (2025) supports that creative problem-solving enhances teaching effectiveness and classroom management.

3.1.9 Critical Thinking Attribute of Teachers

Teachers were rated highly as critical thinkers, particularly in promoting reflection, encouraging inquiry, and supporting independent knowledge construction. This indicates that teachers emphasize higher-order thinking and analytical skills in instruction. Studies by Kuloğlu and Karabekmez (2022) and Koçi (2025) confirm that critical thinking is essential for effective teaching and learner development.

3.1.10 Passion for Excellent Teaching

Teachers exhibited very high passion for teaching, particularly in demonstrating care for learners, delivering effective instruction, and inspiring holistic development. This reflects strong intrinsic motivation and commitment to teaching. Studies by Chichekian et al. (2025), Rampa (2012), and Scroggs (2021) confirm that passionate teachers positively influence student motivation and learning outcomes.

3.1.11 Emotional Intelligence of Teachers

Teachers demonstrated very high emotional intelligence, particularly in maintaining positive learning environments and showing empathy toward learners. This indicates strong interpersonal skills and emotional regulation. Studies by Kathiresan (2026) and Rafal and Buquia (2026) confirm that emotional intelligence enhances classroom climate and student engagement.

3.2 Teachers' Capabilities in K–10 Curriculum Delivery

Teachers were generally rated highly capable across all domains, including content knowledge and pedagogy, diversity of learners and assessment, curriculum and planning, and community engagement. These results indicate that teachers possess the necessary competencies to implement the K to 10 curriculum effectively. Their ability to integrate knowledge, plan instruction, and engage stakeholders reflects strong professional readiness and alignment with curriculum goals.

3.3 Relationship Between Profile Variables and Teacher Capabilities

The results show that most demographic variables such as age, sex, civil status, and years in service were not significantly related to teacher capabilities. However, highest educational attainment consistently showed significant relationships across multiple domains, while present position was significant in selected areas such as curriculum planning and learner diversity. This suggests that professional qualifications and career advancement are stronger determinants of teaching capability than personal characteristics. Studies such as Filgona, Sakiyo, and Gwany (2020), Kokare (2022), and Masongsong et al. (2023) support that higher educational attainment enhances instructional competence.

3.4 Relationship Between Teacher Attributes and Capabilities

All teacher attributes showed strong and significant positive relationships with all capability domains. This indicates that attributes such as critical thinking, flexibility, creativity, and emotional intelligence directly enhance teaching effectiveness. Studies by Filgona, Sakiyo, and Gwany (2020), Aderinoye-Rabiu et al. (2025), Galache (2025), Vantieghem et al. (2023), Nimante and Kokare (2022), Suarez, Salva, and Fernal (2025), Sims et al. (2021), and Burroughs et al. (2019) consistently support this relationship. Overall, the findings confirm that teacher attributes and capabilities are interdependent and mutually reinforcing, emphasizing the importance of holistic teacher development in improving curriculum implementation.

4. Conclusion and Recommendations

The study revealed that most teachers are early- to mid-career professionals, predominantly female, married, and with ongoing graduate studies, indicating a workforce in active professional development. Teachers demonstrated high to very high levels across all identified attributes, particularly in passion for teaching, emotional intelligence, and creative problem-solving, while also showing strong capabilities in content knowledge and pedagogy, diversity of learners and assessment, curriculum and planning, and community engagement. Among profile variables, only highest educational attainment and present position showed significant relationships with selected capability domains, while most demographic variables were not significant. In contrast, all teacher attributes consistently showed strong and significant relationships with all capability domains, indicating that professional attributes are key determinants of instructional effectiveness. Overall, the findings confirm that teacher attributes and capabilities are interrelated, and that strengthening these attributes is essential for effective K to 10 curriculum implementation.

It is recommended that school administrators and instructional leaders implement structured and sustained professional development programs that focus on enhancing critical thinking, creative problem-solving, and other key teacher attributes, supported by coaching and mentoring initiatives. Teachers are encouraged to pursue advanced academic qualifications, particularly completing master's degrees, to improve their professional competence and opportunities for advancement. There is also a need to continuously strengthen teachers' ability to facilitate diverse and inclusive teaching-learning processes and to further develop all identified professional attributes to enhance curriculum delivery. Additionally, future studies are recommended to explore other variables that may influence teacher capabilities, and the proposed Integrated Professional Development Program may be utilized as a structured, evidence-based approach to support continuous teacher development, improve instructional practices, and ensure effective implementation of the K to 10 curriculum.

The study was limited to Grade 7 and Grade 8 public secondary school teachers in selected schools within the Schools Division Office of Manila during a specific school year, which may limit the generalizability of the findings to other contexts or levels of education. It focused only on selected profile variables, teacher attributes, and capability domains, and did not include other possible factors that may influence teaching effectiveness. The use of self-reported data through questionnaires may also introduce response bias, as the findings relied on participants' perceptions rather than direct observation of teaching practices.

Compliance with ethical standards

The authors declare no conflict of interest and report that this study received no external funding. The researchers acknowledge the participation of the teachers and the Schools Division Office of Manila for permitting the conduct of the study. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection, which was conducted using non-invasive survey methods. All data were treated with strict confidentiality, and no identifying information was disclosed in any part of the study.

REFERENCES

- Abragan, F. Q., Abarcas, V., Aquino, I. M., & Bagongon, R. E. (2022). Research review on K–12 curriculum implementation in the Philippines: A generic perspective. *European Journal of Educational and Social Sciences*.
- Aldrup, K., Carstensen, B., & Klusmann, U. (2022). Is empathy the key to effective teaching? *Educational Psychology Review*.
- Asim, F. (2024). Impact of teacher training programs... *Journal of Education and Educational Development*.
- Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching... *Journal of Teacher Education*.
- Basister, M. P., Petersson, J., & Baconguis, R. D. T. (2025). Educational innovations... *Frontiers in Education*.
- Boche, B. (2014). Multiliteracies in the classroom... *Journal of Language and Literacy Education*.
- Botha, A., du Toit-Brits, C., & Blignaut, J. H. (2025). Charting new pathways... *Education Sciences*.
- Burroughs, N., Gardner, J., Lee, Y., Guo, S., Tuitou, I., Jansen, K., & Schmidt, W. (2019). *Teaching for excellence and equity*... Springer International Publishing.
- Calderon, J. F., & Gonzales, E. C. (2011). *Methods of research and thesis writing*. National Book Store.
- Charoenthom, M., Kantathanawat, T., Pimdee, P., & Teerasoonthontai, K. (2025). Creative problem solving competencies... *Learning Gate*.
- Christodouloupoulos, I. E. (2025). Teacher self-directed learning... *International Journal of Science and Research Archive*.
- Corkett, J. K., & Benevides, T. (2015). Pre-service teachers' perceptions... *International Journal of Psychology and Educational Studies*.
- Dalagan, S. E., Jr., & Lunay, J. K. M. (2026). A convergent study on capability and development... *Asia Pacific Journal of Advanced Education and Technology*.
- Danielson, C., Furman, J. S., & Kappes, L. (2024). *Enhancing professional practice: The framework for teaching* (3rd ed.). ASCD.
- Dasal, C. D. (2025). Teachers' digital literacy... *UniversePG—Asian Journal*.
- Department of Education (DepEd). (2017). National adoption and implementation of the Philippine Professional Standards for Teachers (PPST) (DepEd Order No. 42, s. 2017). <https://www.deped.gov.ph/2017/08/11/do-42-s-2017...>
- Department of Education (DepEd). (2019). Policy guidelines on the K to 12 Basic Education Program (DepEd Order No. 21, s. 2019). https://www.deped.gov.ph/wp-content/uploads/2019/08/DO_s2019_021.pdf
- Department of Education (DepEd). (2022). Adoption of the Basic Education Monitoring and Evaluation Framework (BEMEF) (DepEd Order No. 29, s. 2022). https://www.deped.gov.ph/wp-content/uploads/2022/06/DO_s2022_029-corrected-copy.pdf
- Department of Education (DepEd). (2024). Policy guidelines on the implementation of the MATATAG Curriculum (DepEd Order No. 010, s. 2024).
- Filgona, J., Sakiyo, J., & Gwany, D. M. (2020). Teachers' pedagogical content knowledge... *Journal of Global Research in Education and Social Science*.
- Fischer, J., Ghadiri Mohajerzad, H., & Schrader, J. (2025). Teaching quality and teachers' professional competences... *International Journal of Lifelong Education*.
- Friday Institute for Educational Innovation. (n.d.). Micro-credentialing. <https://fi.ncsu.edu/projects/micro-credentialing/>
- Galache, D. M. (2025). Teachers' professional development... *IOER International Multidisciplinary Research Journal*.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press.
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher–child relationships... *Child Development*.
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.
- Hesterman, S. (2011). A contested space... *Contemporary Issues in Early Childhood*.
- Ho, S. K., & Gan, Z. (2023). Instructional practices... *Language Testing in Asia*.
- Insorio, A. O. (2024). Teachers' research characteristics... *International Journal of Research in Education and Science*.
- Kanmaz, A. (2022). A study on interdisciplinary teaching practices... *African Educational Research Journal*.
- Kathiresan, C. (2026). Teacher emotional intelligence... *International Journal of Indian Psychology*.
- Keane, J. (2016). Theory of action: Positive impact on teaching and learning. <https://www.gettingsmart.com/...>
- Koehler, M. J., & Mishra, P. (2013). http://www.matt-koehler.com/publications/Koehler_et_al_2013.pdf
- Korpershoek, H., Harms, T., de Boer, H., van Kuijk, M., & Doolaard, S. (2016). A meta-analysis of classroom management strategies... *Review of Educational Research*.
- Kuloğlu, A., & Karabekmez, V. (2022). The relationship between 21st century teacher skills... *International Journal of Psychology and Educational Studies*.
- Kuyong, S. R. S. (2025). Assessing professional skills... *Journal of Education and Academic Settings*.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*.

- Leijen, Ä., Malva, L., Pedaste, M., & Mikser, R. (2022). What constitutes teachers' general pedagogical knowledge... *Teachers and Teaching*.
- Li, Z., Chen, J., & Li, Q. (2025). Teacher professional development and students' SE skills... *Current Psychology*.
- Lübke, L., Piquart, M., & Schwinger, M. (2021). Role of flexibility in inclusive education. *Sustainability*.
- Magtoltol, R. C., & Oropa, J. C. (2025). ICT landscape and digital literacy skills... *Journal of Interdisciplinary Perspectives*.
- Marzano, R. J., & Marzano, J. S. (2003). The key to classroom management. *Educational Leadership*.
- Marzano, R. J., Marzano, J. S., & Pickering, D. J. (2003). *Classroom management that works: Research-based strategies for every teacher*. ASCD.
- Masongsong, J. M., et al. (2023). Teachers' training in inclusive education... *International Journal of Social and Management Studies*.
- Metsäpelto, R.-L., et al. (2021/2022). A multidimensional adapted process model of teaching... *Educational Assessment, Evaluation and Accountability*.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge... *Teachers College Record*.
- Mohiyeddini, C. (2024). Self-directed teaching... *Frontiers in Medicine*.
- National Teaching Council (Ghana). (2026). *Digital literacy and ICT integration course for teachers in pre-tertiary schools*. NTC.
- New London Group. (1996). A pedagogy of multiliteracies... *Harvard Educational Review*.
- Nimante, D., & Kokare, M. (2022). Teachers' competencies for inclusive education. *Acta Paedagogica Vilnensia*.
- OECD. (2019). *TALIS 2018 results (Volume I)*.
- OECD. (2023). *Education GPS: Philippines—Student performance (PISA 2022)*. OECD Publishing.
- OECD. (2023). *PISA 2022 results (Volumes I & II): Philippines—Country note*. OECD Publishing.
- OECD. (2019). <https://doi.org/10.1787/1d0bc92a-en>
- Olsson, Ä., & Hansson, S. (2026). Designing for diversity... *Learning Environments Research*.
- Opina, C. M. F. D., Malabo, E. Q., & Gallaron, J. B. (2024). Correlation between teachers' qualifications... *Psychology and Education: A Multidisciplinary Journal*.
- Orivida, A. M., & Nabos, J. Q. (2024). Teachers' digital literacy... *Ignatian International Journal for Multidisciplinary Research*.
- Parsons, S. A., et al. (2018). Teachers' instructional adaptations... *Review of Educational Research*.
- Participate Learning. (n.d.). Programs and professional learning. <https://www.participatelearning.com/>
- Pascua Valenzuela, E. A. (2025). Digital literacy and transformation in ASEAN... ASEAN Secretariat.
- Rafal, R. M., & Buquia, W. A. (2026). Teachers' emotional intelligence... *International Journal of Academic Multidisciplinary Studies*.
- Rampa, S. H. (2012). Passion for teaching... *Procedia – Social and Behavioral Sciences*.
- Resnick, V., & Ben David Kolikant, Y. (2022). Conceptual framework... *Global Journal of Human Social Science*.
- Scroggs, E. (2021). *Teaching with passion and compassion...* (Doctoral dissertation).
- Shulman, L. S. (1986). Those who understand... *Educational Researcher*.
- Shulman, L. S. (1987). Knowledge and teaching... *Harvard Educational Review*.
- Sims, S., Fletcher Wood, H., O'Mara Eves, A., et al. (2021). Teacher professional development... Education Endowment Foundation.
- Sims, S., Fletcher Wood, H., O'Mara Eves, A., et al. (2022). Effective teacher professional development... (EdWorkingPaper).
- Skrbinjek, V., Vičič Krabonja, M., Aberšek, B., & Flogie, A. (2024). Enhancing teachers' creativity... *Education Sciences*.
- Sørensen, M. T., & Stenalt, M. H. (2025). Teachers' approaches to interdisciplinary teaching... *International Journal for Academic Development*.
- Stiggins, R. (2017). *The perfect assessment system*. ASCD.
- Stiggins, R. (2018). Better assessments require better assessment literacy. *Educational Leadership*.
- Tindowen, D. J. C., Bassig, J. M., & Cagurangan, J.-A. (2017). Twenty-first century skills... *SAGE Open*.
- U.S. Department of Education. (2019). <https://nces.ed.gov/pubs2019/2019132.pdf>
- Walker, R. J. (2008). Twelve characteristics of an effective teacher... *College Teaching Methods & Styles Journal*.
- World Bank. (2020). <https://documents1.worldbank.org/curated/en/165171593329067948/pdf/Report-Presentation-Final.pdf>
- Wu, X., Yang, Y., Zhou, X., Xia, Y., & Liao, H. (2024). A meta-analysis of interdisciplinary teaching abilities... *International Journal of STEM Education*.
- Zhan, Z., He, L., & Zhong, X. (2024). Problem solving pedagogy and creativity... *Frontiers in Psychology*.
- UNESCO. (2018). <https://unesdoc.unesco.org/ark:/48223/pf0000265721>
- UNESCO. (2025). Literacy: What you need to know. <https://www.unesco.org/en/literacy/need-know>