

EXTENT OF MASTERY OF 21ST CENTURY TEACHING SKILLS OF PUBLIC ELEMENTARY SCHOOL TEACHERS IN MALASIQUI II DISTRICT

JEAN N. TAMAYO

Master of Arts in Education
Major in Educational Administration

Abstract

This study determined the extent of mastery of 21st-century teaching skills among public elementary school teachers in Malasiqui II District during School Year 2024–2025. Employing a quantitative–descriptive correlational research design, the study described the teachers’ profile in terms of age, sex, civil status, highest educational attainment, length of teaching experience, number of relevant trainings attended, and self-efficacy level in teaching. It also assessed the extent of mastery of 21st-century teaching skills as perceived by both teachers and their school heads, examined differences in these perceptions, and explored the relationship between teachers’ profile variables and their mastery level. Furthermore, the developmental method was utilized to propose an in-service training program to enhance such skills. The respondents included 186 randomly selected teachers and all 27 school heads in the district. Data were gathered using validated survey questionnaires and analyzed through frequency counts, percentages, weighted means, t-test, and chi-square test of independence. Results revealed that the typical teacher was 30–49 years old, female, married, without a postgraduate degree, had more than 10 years of teaching experience, had attended few relevant trainings, and had high self-efficacy. Teachers rated their mastery of 21st-century skills as “great extent,” while school heads rated it as “moderate extent,” with perceptions differing significantly. Educational attainment, teaching experience, training attended, and self-efficacy were significantly related to mastery. Based on these findings, an in-service training program was proposed to strengthen the mastery of 21st-century teaching skills in the district.

Keywords: 21st-Century Teaching Skills, Teacher Mastery, Self-Efficacy, Malasiqui II District, In-Service Training Program

1. Introduction

In recent years, Philippine education policy has emphasized the cultivation of 21st-century teaching skills, aligning teacher development with global standards of learner competence. DepEd Order No. 21, s. 2019, for instance, explicitly mandates the integration of four key domains—information, media, and technology skills; learning and innovation skills; communication skills; and life and career skills—into the K–12 curriculum. Moreover, DepEd Order No. 001, s. 2020 outlines continuing professional development pathways designed to ensure teachers maintain currency in pedagogy and digital competence. Notably, DepEd Order No. 007, s. 2024 further reinforced the requirement that all public schools adopt inclusive learning environments built around the mastery of these 21st-century skills. Consequently, teacher quality as prescribed by the Philippine Professional Standards for Teachers hinges on educators being equipped with these competencies, since through quality teachers, the nation aims to produce holistic learners capable of driving national progress (Gepila, 2020).

Despite these forward-looking policies, empirical studies illustrate that the actual integration of 21st-century skills remains uneven across regions and instructional levels. For example, a descriptive-correlational inquiry revealed that although teachers generally reported high levels of integration of critical thinking, collaboration, communication, creativity, and

technology use, there was no significant agreement on rank orders among different respondent groups. Constraints persisted, especially in technology access (Regan et al., 2019). Similarly, a correlational study found that while teachers “highly practiced” 21st-century skills, such practice did not correlate significantly with performance indicators, suggesting that practice alone may not guarantee instructional effectiveness. These findings underscore the need for context-specific assessments and tailored training programs (Copur-Gencturk & Thacker, 2020).

Moreover, international research indicates a strong linkage between digital literacy and 21st-century skill proficiency: one study of primary teachers showed high levels in both domains and a moderate positive correlation between them, suggesting that digital competence underpins broader skill mastery (Milenkova & Manov, 2019). Likewise, policy discourse such as the Second Congressional Commission on Education (EDCOM2) has flagged underinvestment in teacher training and highlighted how inadequate resource allocation impedes skill development and student learning outcomes (Aydin & Yildirim, 2022).

Against this backdrop, it becomes critical to examine how teachers in specific districts are mastering these vital competencies. Malasiqui II District, which comprises multiple public elementary schools in Pangasinan, has not yet been the focus of such empirical scrutiny. Therefore, this study was conceived to assess the extent to which its public elementary school teachers master 21st-century teaching skills during School Year 2024–2025. In addition, because teacher self-perception may differ from supervisor perception, the study sought to compare teachers’ self-assessments with the evaluations of their school heads, thus providing a dual perspective on skill mastery.

Furthermore, the present research also examines key profile variables—including age, sex, civil status, educational attainment, length of teaching experience, number of relevant trainings attended, and teaching self-efficacy—and their relationship to mastery levels. Notably, self-efficacy is conceptually grounded in Bandura’s theory, which posits that teachers who are confident in their pedagogical capabilities are more likely to apply innovative methods effectively. At the same time, higher education and exposure via training have been found in other Philippine settings to correlate significantly with better integration of global competencies and technology use (Mastul et al., 2023).

In addition, since Republic Act No. 9155 (the Governance of Basic Education Act) empowers schools and local districts to plan contextually relevant development initiatives, it is timely that this study also proposes a developmental intervention—namely, an in-service training program specifically designed to address gaps identified in the mastery of 21st-century teaching skills in Malasiqui II District.

Accordingly, the objectives of the study were threefold: first, to profile the public elementary school teachers in the district in terms of demographic and professional variables; second, to determine the extent of their mastery of 21st-century teaching skills as perceived by themselves and by their school heads, to examine the difference between those two perceptions, and to assess the relationships between profile variables and mastery; third, to develop a contextually tailored in-service training program to enhance teacher competency in these areas.

By integrating national policy mandates, theoretical constructs, and comparative evidence from related Philippine studies, this investigation aims to provide robust insights into how teachers in Malasiqui II District are performing in terms of 21st-century readiness. Hence, the study contributes not only to local educational planning and capacity-building but also to the broader literature on teacher proficiency and professional development in the Philippines.

2. Method

2.1 Research Design

This study employed a quantitative–descriptive correlational research design, supplemented by a developmental approach. The quantitative–descriptive component was utilized to present a clear and factual description of the profile of public elementary school teachers in Malasiqui II District during School Year 2024–2025, which included variables such as age, sex, civil status, highest educational attainment, length of teaching experience, number of relevant trainings attended, and self-efficacy level in teaching. It likewise described the extent to which the teachers have mastered 21st-century teaching skills, as perceived both by themselves and by their school heads.

The correlational aspect was employed to determine the statistical relationships between the teachers' profile variables and their mastery of 21st-century teaching skills. In addition, it was used to test whether a significant difference existed between the perceptions of the teachers and their school heads regarding the extent of skill mastery. This design was appropriate since correlational studies allow researchers to explore associations and differences among variables without manipulating them, thereby reflecting authentic conditions in the natural school setting.

Moreover, the developmental method was integrated into the study to create a proposed in-service training program based on the results of the descriptive and correlational analyses. This program was designed to address identified gaps and enhance the mastery of 21st-century teaching skills among teachers in the district. By combining these approaches, the study was able to provide not only empirical evidence on the current state of teacher competency but also a practical intervention aligned with the identified needs.

2.2 Participants

The participants of the study consisted of two distinct groups: 186 randomly selected public elementary school teachers and all 27 school heads from Malasiqui II District during School Year 2024–2025. The teachers, who were drawn from a total population of 346 using Slovin's formula with a 5% margin of error, provided information regarding their demographic and professional profiles—specifically, their age, sex, civil status, highest educational attainment, length of teaching experience, number of relevant trainings attended within the past five years, and self-efficacy level in teaching—as well as their self-assessment of their mastery of 21st-century teaching skills. The school heads, on the other hand, served as evaluators by providing their perceptions of the extent to which the teachers demonstrated these skills. This dual-respondent structure enabled the study to capture both self-perceptions and supervisory assessments, thereby ensuring a more comprehensive and balanced evaluation of teacher competency in the district.

2.3 Instrumentation

The study utilized two researcher-developed survey questionnaires as its primary instruments—one for the public elementary school teachers and another for the school heads—both of which were content-validated by experts in education and research. The teachers' questionnaire was composed of three parts: the first gathered data on their demographic and professional profile, including age, sex, civil status, highest educational attainment, length of teaching experience, and number of relevant trainings attended in the past five years; the second measured their self-efficacy level in teaching using a Likert-type scale; and the third assessed the extent of their mastery of 21st-century teaching skills across various domains such as critical thinking, collaboration, communication, creativity and innovation, self-direction, global and local connections, and technology use. Meanwhile, the school heads' questionnaire focused solely on evaluating the extent to which the teacher's demonstrated mastery of these skills. Both

instruments employed a five-point scale for consistency in scoring and interpretation, thereby facilitating valid comparisons between teacher self-assessments and supervisory evaluations.

2.4 Data Analysis

The data were analyzed using a combination of descriptive and inferential statistical tools appropriate to the research objectives. Frequency counts and percentages were employed to describe the teachers' profile variables, excluding self-efficacy. At the same time, weighted means were computed to determine both the self-efficacy level of the teachers and the extent of their mastery of 21st-century teaching skills as perceived by themselves and by their school heads. To ensure clarity of interpretation, the weighted means were categorized using predetermined verbal interpretation scales for both self-efficacy and skill mastery. Furthermore, the independent samples t-test was utilized to determine whether a significant difference existed between the perceptions of teachers and school heads regarding the teachers' mastery of 21st-century teaching skills. Lastly, the chi-square test of independence was applied to examine the relationships between the teachers' profile variables and their level of mastery, thereby identifying which factors were significantly associated with competency in 21st-century teaching.

3 Results

The study revealed that most public elementary school teachers in Malasiqui II District were within the age range of 30 to 49 years old (82%), predominantly female (71%), and married (84%). In terms of educational attainment, a simple majority (51%) had no postgraduate degree, while most had been in the teaching profession for more than 10 years (71%). Regarding professional development, 65% had attended no more than three trainings or seminars related to 21st-century teaching skills in the past five years. Additionally, the teachers, on average, demonstrated a high level of self-efficacy in teaching, indicating confidence in their ability to facilitate learning and implement instructional strategies effectively.

In assessing the extent of mastery of 21st-century teaching skills, the findings showed that teachers rated themselves as demonstrating all skill domains—critical thinking, collaboration, communication, creativity and innovation, self-direction, global connections, local connections, and technology skills—to a *great extent*, with an overall weighted mean of 3.98. Specifically, self-ratings ranged from 3.96 to 3.99 across the skill areas. Conversely, school heads rated the teachers' mastery at a *moderate extent*, with an overall weighted mean of 3.14, and area means ranging from 3.09 to 3.17. The disparity between these ratings was statistically significant, as indicated by a computed p-value of 0.00, suggesting differing perceptions between the two groups regarding the actual mastery level of teachers.

The analysis further revealed that among the profile variables, the highest educational attainment ($\chi^2 = 8.85$), length of teaching experience ($\chi^2 = 7.75$), number of relevant trainings attended ($\chi^2 = 8.30$), and self-efficacy level ($\chi^2 = 7.33$) were significantly related to the extent of mastery of 21st-century teaching skills. In contrast, age ($\chi^2 = 2.41$), sex ($\chi^2 = 1.34$), and civil status ($\chi^2 = 2.25$) showed no significant relationship with skill mastery. These findings imply that professional qualifications, experience, and ongoing capacity-building efforts play a crucial role in enhancing teachers' competence in 21st-century pedagogy. At the same time, demographic factors such as age and gender are less predictive of mastery levels.

4. Discussion

The findings of this study are consistent with and further substantiate the results of several related studies on the mastery of 21st-century teaching skills among educators. The result showing that teachers rated themselves as largely demonstrating these skills while school heads perceived them to demonstrate such skills only to a *moderate extent* parallels the study where teachers self-reported high integration of critical thinking, collaboration, and technology skills, yet

external evaluations reflected more conservative assessments. This convergence suggests that discrepancies in self-perception and supervisory evaluation are common, possibly due to differences in evaluative criteria, observation frequency, and the emphasis placed on tangible versus implicit indicators of skill mastery (Brand et al., 2022).

Moreover, the finding that the highest educational attainment, length of teaching experience, number of relevant trainings attended, and self-efficacy are significantly related to mastery aligns with the results of Medina South District, Misamis Oriental, where professional growth variables—particularly training participation—were found to be key contributors to effective 21st-century skills application. Similarly, international studies have established that teacher qualifications and targeted professional development have a direct impact on their capacity to integrate 21st-century competencies into instructional practice, as seen in research that reported a moderate positive correlation between digital literacy and skill mastery. These parallels reinforce the premise that sustained learning opportunities and experiential growth are critical in strengthening teacher competence (Yünkül & Güneş, 2022).

In contrast, the lack of significant relationships between mastery and demographic variables such as age, sex, and civil status echoes the conclusions of various Philippine and international studies indicating that these factors are not reliable predictors of teaching effectiveness in the context of 21st-century skill application (Ereje & Ambag, 2020). Instead, the evidence collectively points to the primacy of continuous professional development, relevant training, and self-belief in enhancing teacher capability. Thus, the present study not only corroborates but also extends the body of knowledge by contextualizing these patterns within Malasiqui II District, offering empirical support for DepEd's policy emphasis on sustained capacity-building and skills-oriented teacher development programs.

References

- Aydın, M., & Yıldırım, T. (2022). TEACHERS' DIGITAL COMPETENCE: BIBLIOMETRIC ANALYSIS OF THE PUBLICATIONS OF THE WEB OF SCIENCE SCIENTOMETRIC DATABASE. *Information Technologies and Learning Tools*, 91(5), 205. <https://doi.org/10.33407/itlt.v91i5.5048>
- Brand, D., Sellers, T. P., Wilder, D. A., & Carr, J. E. (2022). The Performance Diagnostic Checklist - Human Services: Guidance for Assessment Administration [Review of *The Performance Diagnostic Checklist - Human Services: Guidance for Assessment Administration*]. *Behavior Analysis in Practice*, 15(3), 951. Springer Science+Business Media. <https://doi.org/10.1007/s40617-021-00675-4>
- Copur-Gencturk, Y., & Thacker, I. (2020). A Comparison of Perceived and Observed Learning From Professional Development: Relationships Among Self-Reports, Direct Assessments, and Teacher Characteristics. *Journal of Teacher Education*, 72(2), 138. <https://doi.org/10.1177/0022487119899101>
- Ereje, B. R., & Ambag, S. C. (2020). Teachers' Performance and Students' Learning Outcome in the Division of Cavite Province, Philippines. *International Journal of Theory and Application in Elementary and Secondary School Education*, 2(2), 143. <https://doi.org/10.31098/ijtaese.v2i2.388>
- Gepila, E. C. (2020). Assessing Teachers Using Philippine Standards for Teachers. *Universal Journal of Educational Research*, 8(3), 739. <https://doi.org/10.13189/ujer.2020.080302>
- Mastul, A.-R. H., Vera, C. T. D., & Jayme, C. B. (2023). Understanding the Use of EduTech in Schools in the Philippines: Recommendations for Effectiveness. *Engineering Science Letter*, 2(2), 37. <https://doi.org/10.56741/esl.v2i02.307>

- Milenkova, V., & Manov, B. (2019, January 1). Digital Competences and Skills in the Frame of Education and Training. *Lecture Notes in Economics, Management and Social Sciences*. <https://doi.org/10.23977/ceed.2019.002>
- Regan, K., Evmenova, A. S., Sacco, D., Schwartz, J., Chirinos, D. S., & Hughes, M. (2019). Teacher perceptions of integrating technology in writing. *Technology Pedagogy and Education*, 28(1), 1. <https://doi.org/10.1080/1475939x.2018.1561507>
- Yünkül, E., & Güneş, A. M. (2022). The Relationship Between Prospective Teachers' Digital Literacy Skills, Attitude Towards the Teaching Profession and Academic Motivations. *Educational Policy Analysis and Strategic Research*, 17(3), 140. <https://doi.org/10.29329/epasr.2022.461.7>