Mathematics Teachers' Teaching Competency in Selected Public Elementary Schools in the City of Manila

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Abstract

This study determined the teaching competency level of mathematics teachers in selected public elementary schools in the City of Manila during School Year 2025–2026. Specifically, it examined the teachers' profile in terms of highest educational attainment, length of teaching experience, and number of relevant trainings attended; determined their teaching competency level as perceived by themselves and their school heads; examined the relationship between their profile variables and teaching competency level; and determined the difference between the perceptions of mathematics teachers and school heads. The study employed a quantitative-descriptive-correlational research design with a developmental component. The respondents were 170 mathematics teachers and 14 school heads from selected public elementary schools in the City of Manila. Data were gathered through survey questionnaires and analyzed using frequency, percentage, weighted mean, chi-square test of independence, and t-test. Findings revealed that 74% of the mathematics teachers had no postgraduate degree, 66% had more than 10 years of teaching experience, and 70% had attended not more than three relevant trainings during the past five years. Mathematics teachers perceived themselves as having an advanced teaching competency level, with an overall weighted mean of 4.04, while school heads rated them as competent, with an overall weighted mean of 2.89. Significant relationships were found between teaching competency and educational attainment, teaching experience, and relevant trainings. A significant difference was also found between the perceptions of mathematics teachers and school heads. Based on the findings, a faculty development program was proposed to enhance the teaching competency of mathematics teachers.

Keywords: teaching competency; mathematics teachers; public elementary schools; faculty development program; professional development

Introduction

Quality education is essential to the development of learners and society because it enables learners to acquire knowledge, skills, attitudes, and competencies needed for meaningful participation in life. Quality education requires safe and inclusive learning environments, relevant curricula and instructional materials, learner-centered teaching approaches, appropriate assessment practices, and competent and well-trained teachers (UNICEF, 2026). Teachers are at the core of quality education because their knowledge, skills, and professional practices directly influence the quality of learners' educational experiences. Quality teaching involves effective instructional delivery, classroom management, formative assessment, and personal competencies that support learner achievement (Hattie, 2019). Teaching competency encompasses the knowledge and skills necessary for teachers to perform effectively in the teaching profession (Wing Institute,

2017). In mathematics education, these competencies are particularly important because teachers need adequate content knowledge and pedagogy, effective learning-environment practices, responsiveness to learner diversity, appropriate curriculum planning, assessment skills, professional engagement, and continuous professional development. These areas provide an important basis for examining the teaching competency of mathematics teachers in public elementary schools.

Despite the recognized importance of teacher competency in providing quality education, there remains a need to determine how mathematics teachers demonstrate these competencies in actual school settings. The level of teaching competency may differ across the various domains of professional practice, and teachers' perceptions of their own competency may not necessarily correspond with the perceptions of their school heads. Professional development and relevant training may also contribute to teachers' knowledge and skills, but the extent to which teachers' educational attainment, teaching experience, and participation in relevant trainings are associated with their competency level requires empirical examination. In the selected public elementary schools in the City of Manila, there was a need to obtain evidence regarding the teaching competency of mathematics teachers across the areas of content knowledge and pedagogy, learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development. Continuous assessment and improvement are important in addressing such concerns because quality education involves ongoing improvement in learners, learning environments, curriculum content, instructional processes, and learning outcomes (UNICEF, 2026).

In response to this need, the present study aimed to determine the teaching competency level of mathematics teachers in selected public elementary schools in the City of Manila during School Year 2025–2026. Specifically, it examined the teachers' profile in terms of highest educational attainment, length of teaching experience, and number of relevant trainings attended during the past five years; determined their teaching competency level as perceived by themselves and their school heads; examined the relationship between their profile variables and teaching competency level; and determined whether there was a significant difference between the perceptions of mathematics teachers and school heads regarding the teachers' competency level. The study employed a quantitative-descriptive-correlational research design with a developmental component and involved 170 mathematics teachers and 14 school heads. The findings were intended to provide a basis for the development of a faculty development program to enhance the teaching competency of mathematics teachers in the selected public elementary schools in the City of Manila.

Methodology

Research Design

The study employed a quantitative-descriptive, correlational, and developmental research design. The descriptive component was used to determine the profile of the

mathematics teachers and their teaching competency level as perceived by themselves and their school heads. The correlational component was used to determine the relationship between the teachers' profile variables and their teaching competency level and the difference between the perceptions of the mathematics teachers and school heads. The developmental component was used as the basis for developing a faculty development program intended to improve the teaching competency of mathematics teachers.

Research Setting and Participants

The study was conducted in 14 selected public elementary schools in the City of Manila during School Year 2025–2026. The population consisted of 296 mathematics teachers. Using Slovin's formula with a 0.05 margin of error, a sample of 170 mathematics teachers was obtained. The sample was proportionately distributed among the selected schools, and the teachers were randomly selected. All 14 school heads of the selected schools were included as respondents.

Research Instrument

Data were gathered using two survey questionnaires, one for the mathematics teachers and another for the school heads. The mathematics teachers' questionnaire gathered information about their highest educational attainment, length of teaching experience, number of relevant seminars/trainings attended, and teaching competency level. The school heads' questionnaire gathered data concerning the teaching competency level of the mathematics teachers.

Data Collection Procedure

The questionnaires were administered to the selected mathematics teachers and school heads. The accomplished questionnaires were retrieved and the data were organized for statistical treatment.

Data Analysis

Frequency and percentage were used to describe the profile of the mathematics teachers**.** Weighted mean was used to determine the teaching competency level. The chi-square test of independence was used to determine the relationship between the profile variables and teaching competency level, while the t-test was used to determine whether a significant difference existed between the perceptions of mathematics teachers and school heads.

Results

Profile of the Mathematics Teachers

The findings showed that 74% of the mathematics teachers had no postgraduate degree. In terms of teaching experience**,** 66% had been teaching for more than 10 years. Regarding relevant professional development, 70% had attended not more than three trainings related to teaching competency during the past five years.

Table 1. Profile of the Mathematics Teachers

Profile Variable	Major Finding
Highest educational attainment	74% had no postgraduate degree
Length of teaching experience	66% had more than 10 years of experience
Relevant trainings	70% attended not more than three trainings

Level of Teaching Competency

The mathematics teachers and school heads provided different assessments of the teachers' competency across the seven areas.

Table 2. Teaching Competency Level of Mathematics Teachers as Perceived by Teachers and School Heads

Competency Area	Teachers' WM	Teachers' Interpretation	School Heads' WM	School Heads' Interpretation
Content Knowledge and Pedagogy	4.00	Advanced	2.93	Competent
Learning Environment	4.06	Advanced	2.88	Competent
Diversity of Learners	4.00	Advanced	2.89	Competent
Curriculum and Planning	4.06	Advanced	2.89	Competent
Assessment and Reporting	4.10	Advanced	2.90	Competent
Community Linkages and Professional Engagement	4.01	Advanced	2.89	Competent
Personal Growth and Professional Development	4.07	Advanced	2.87	Competent
Overall	**4.04**	**Advanced**	**2.89**	**Competent**

Note: WM = Weighted Mean; Scale: 1.00–1.49 = Novice, 1.50–2.49 = Beginner, 2.50–3.49 = Competent, 3.50–4.49 = Advanced, 4.50–5.00 = Expert.

Difference Between Perceptions

To determine whether there was a significant difference between the perceptions of the mathematics teachers and school heads regarding the teaching competency level of the mathematics teachers. The test was conducted at the 0.05 level of significance. The computed p-value was 0.00, which was lower than the 0.05 level of significance. Therefore, the null hypothesis was rejected. This indicates that there was a significant difference between the perceptions of the mathematics teachers and school heads regarding the teaching competency level of the mathematics teachers.

Table 3. Difference Between the Perceptions of Mathematics Teachers and School Heads

Teaching Competency Level	Computed p-value	Level of significance	Remarks
Mathematics Teachers and School Heads	0.00	0.05	Significant

Relationship Between Profile Variables and Teaching Competency

The profile variables considered were highest educational attainment, length of teaching experience, and number of relevant trainings attended during the past five years**.** The relationship between these variables and teaching competency was analyzed using the chi-square test of independence at the 0.05 level of significance. The results showed significant relationships between teaching competency and highest educational attainment, length of teaching experience, and number of relevant trainings attended. These findings indicate that the teachers' professional and educational background were significantly associated with their teaching competency level.

Table 4. Relationship Between Profile Variables and Teaching Competency Level

Profile Variable	p- value	Chi-square	Decision/Result
Highest Educational Attainment	0.01	3.13	Significant
Length of Teaching Experience	0.00	7.96	Significant
Number of Relevant Trainings	0.01	6.59	Significant

Discussion

The findings indicate that the typical mathematics teacher in the selected public elementary schools had no postgraduate degree, had more than 10 years of teaching experience, and had attended not more than three relevant trainings during the past five years. This profile suggests that the teachers generally possessed substantial classroom experience, although postgraduate education and participation in relevant professional development were less common among the respondents.

A notable finding was the difference between the teachers' self-assessment and the school heads' assessment. Mathematics teachers perceived themselves as having an advanced level of teaching competency, whereas school heads assessed them as competent. The difference was consistent across the seven competency areas. The overall weighted means of 4.04 and 2.89 show that the two respondent groups did not have the same assessment of the teachers' competency.

The findings also showed significant relationships between teaching competency and all three profile variables. Educational attainment had a chi-square value of 6.13 and p-value of 0.01**;** teaching experience had a chi-square value of 7.96 and p-value of 0.00; and relevant trainings had a chi-square value of 6.59 and p-value of 0.01. Since all p-values were below 0.05, the null hypothesis was rejected for each variable.

The significant difference between the perceptions of teachers and school heads further indicates the importance of using more than one perspective when assessing teaching competency. The teachers' self-perceptions alone may provide only one view of their professional competence, while school-head assessments provide another perspective based on administrative and professional observation. The significant p-value of 0.00 supports the conclusion that the two groups differed significantly in their assessment.

The findings provided a basis for the proposed faculty development program. The thesis specifically considered the relatively limited number of relevant trainings attended by the majority of teachers, the school heads' assessment of teachers as competent, and the significant relationship between relevant trainings and teaching competency.

Conclusion

The mathematics teachers in the selected public elementary schools in the City of Manila were generally experienced teachers, with the majority having more than 10 years of teaching experience. However, most of the teachers had no postgraduate degree and had attended not more than three relevant trainings during the past five years. These findings indicate that although the respondents had considerable teaching experience, opportunities for further academic advancement and relevant professional development remained important considerations in strengthening their teaching competency.

In terms of teaching competency, the mathematics teachers assessed themselves as Advanced, with an overall weighted mean of 4.04, while the school heads assessed them

as Competent, with an overall weighted mean of 2.89. This shows that the perceptions of the two groups differed in assessing the teaching competency of the mathematics teachers.

The study further established that highest educational attainment, length of teaching experience, and number of relevant trainings attended had significant relationships with teaching competency level. Moreover, there was a significant difference between the perceptions of mathematics teachers and school heads regarding the teachers' teaching competency. These findings demonstrate the importance of considering teachers' educational background, professional experience, and continuing professional development when examining teaching competency.

Finally, based on the findings of the study, a Faculty Development Program was proposed to enhance the teaching competency of mathematics teachers in the selected public elementary schools in the City of Manila. The proposed program provides a basis for addressing areas of professional development and supporting the continuous improvement of mathematics teachers' competencies.

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ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com