



Assessing the Efficacy of MATATAG Curriculum Training: A Pretest-Posttest Analysis of Educators' Knowledge and Skills

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Abstract

Background and Aim: The MATATAG Curriculum from the Philippine Department of Education (DepEd) exists to develop teaching competency because the country faces new educational requirements. The research aims to establish MATATAG training effects through evidence-based findings to guide future training initiatives that need strengthening. Ultimately, the study offers essential outcomes that educational leaders and policymakers should apply to enhance their professional development programs.

Methodology: A quasi-experimental research design, mainly using the one-group pretest-posttest approach, was utilized to determine the effectiveness of MATATAG training in the Pagadian City Division under DepEd Region IX. One hundred forty-seven (147) educators from the pool of Teachers, Master Teachers, Head Teachers, and School Principals joined the study. The training assessment delivered standardized tests at two points, measuring participant competence and understanding changes.

Results: Paired samples t-tests, specifically the Wilcoxon rank test, revealed that the training successfully increased scores in the posttest assessment compared to pretest scores ($M = 18.272$ vs. $M = 15.612$, $p < .001$) with a large effect, as shown by the rank biserial correlation of 0.827. The statistical result shows that the improvement in educators' performance after the training was significant in magnitude.

Conclusion: Evidence derived from this investigation supports worldwide recommendations for competency-based professional development and confirms evidence-based approaches for teacher development reforms. The research findings support a scaled-up MATATAG training program by investing permanent funding and strengthening policies to support collaborative, well-governed professional enhancement. Professionally designed strategies should lead to sustained enhancement of educational quality, which will boost the transformative policy reforms conducted by the DepEd.

Keywords: Educators Training, MATATAG Curriculum, Pretest-posttest, Professional Development

Introduction

The Department of Education (DepEd) launched the MATATAG Curriculum to address learning losses and to recalibrate the K–12 program towards mastery-focused learning. The MATATAG curriculum in the Philippines tackles K-12 educational issues and societal developments by focusing on humanized education and system deficiency resolution (Estrellado, 2024). As part of its rollout, the Pagadian City Division, under DepEd Region IX, implemented intensive training among school leaders and teaching staff. This training aimed to equip educators with the knowledge, pedagogical strategies, and assessment frameworks necessary for effective implementation.

Research on teaching and teaching-related personnel development typically assesses broad professional growth without addressing assessments based on new curricula content, such as MATATAG. Different evaluation approaches depend on collector-driven data and feedback surveys, yet these methods cannot precisely measure acquired knowledge. Educational staff competency assessments must use quantitative pretest and posttest methods to verify actual training effects. The absence of proper evaluation tools prevents DepEd from determining if MATATAG training achieves its objectives and identifying areas where improvements should be made concerning delivery methods, instructional techniques, and spending decisions.

The research aims to establish MATATAG training effects through evidence-based findings to guide future training initiatives that need strengthening. Ultimately, the study offers essential outcomes



that educational leaders and policymakers should apply to enhance their professional development programs.

Objectives

The primary objective of this study is to assess the efficacy of the MATATAG Curriculum Training in improving educators' knowledge and skills. Specifically, it seeks to answer the following: What is the demographic profile of the respondents? What is the magnitude of knowledge/skill gains among educators after MATATAG Training? Do the posttest scores show a significant increase as compared to pretest scores? Lastly, does the MATATAG Training affect improving educators' competencies?

Literature review

This research is anchored on the Four-Level Training Evaluation Model proposed by Kirkpatrick and Kirkpatrick to evaluate training programs based on reaction, learning, behavior, and results assessment points. Educational programs for head teachers gain effectiveness through the adapted Kirkpatrick evaluation model, which identifies both positive and negative aspects to guide future enhancement. The model is accepted because it provides detailed evaluation procedures to measure training effectiveness (Alsalamah & Callinan, 2021).

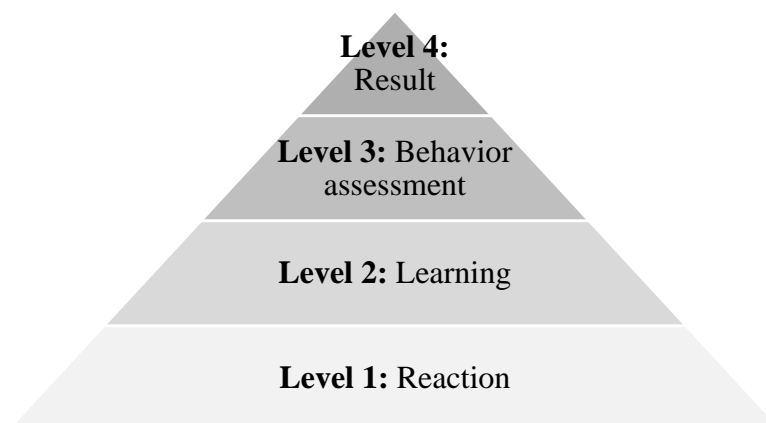


Figure 1: Kirkpatrick's Four-Level Training Evaluation Model

An examination of Kirkpatrick's Four-Level Training Evaluation Model is included in this paper. The first level, Reaction, measures participants' initial responses to the training program. The assessment determines the participants' reaction to the training and satisfaction with its contents. Understanding immediate training impacts relies heavily on this essential level to guarantee participant involvement. The Learning level measures all acquired knowledge and skills from the training education. The assessment checks what participants learned while establishing their achievement of training objectives. The most direct way to monitor this level occurs when tests or assessments are run before and after training sessions. The behavior assessment evaluates to what degree participants use their training lessons within their professional environment. Performance changes and practical skill or knowledge utilization form the focus of this assessment level. Supervisors, along with observation of workers, usually conduct the evaluation process. The final level, Results, measures the overall impact of the training on organizational goals and outcomes. The evaluation includes assessing productivity, efficiency improvements, and other performance indicators established by training objectives. The organization level measures how well the training accomplishes its objectives from a more significant strategic perspective.

Conceptual Framework

The researchers utilize a Pretest-Intervention-Posttest Model to determine the success of the MATATAG curriculum training. The first step requires participants to take a pretest containing measurements of their initial abilities through questionnaires and assessments. The MATATAG Training is the step they took to develop pedagogical knowledge and curriculum delivery techniques. After completing the training, participants undergo a posttest that mirrors the pretest, allowing researchers to compare results before and after the intervention. The research design allows researchers to conduct a straightforward and impactful assessment of teacher performance changes and curriculum impact by using before-and-after assessments.

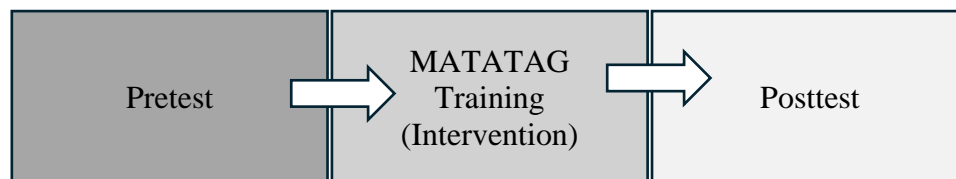


Figure 2: Schematic Diagram of the Study

Methodology

1. Research Design

The researchers conducted a quantitative study, particularly the quasi-experimental approach, using a one-group pretest-posttest design to evaluate MATATAG's consequences on educators' knowledge and abilities. Assessment is given to educators through standardized procedures before (pretest) and following (posttest) the training period to measure direct changes produced through educational sessions. The research design of MATATAG training lets researchers perform a basic competency assessment by matching baseline measurements with post-intervention results. The research design proves beneficial when researchers need quick assessment data because it brings results without establishing definite causality links.

2. Sampling

This study used an elaborate sampling design to maintain an appropriate representation of all diverse MATATAG educator participants. There are 147 educational personnel representing four different roles, such as ninety-nine (99) Teachers, twenty-eight (28) Master Teachers, ten (10) Head Teachers, and ten (10) School Principals from the Pagadian City Division belonging to DepEd Region IX. The researchers selected subjects through a purposive strategy, considering their educational positions to achieve this sampling design. Sampling is a powerful method for quasi-experimental research to select participants easily affected by the intervention.

3. Data Collection

Standardized questionnaires provided by the Central Office are operated through Microsoft Forms to collect data. Researchers first conducted the pretest to evaluate the training participants ahead of MATATAG and executed the posttest immediately after the training was completed.

4. Data Analysis

The research used the Wilcoxon signed-rank test as an alternative to paired samples t-tests to establish if the obtained pretest-posttest score discrepancies were significant while disregarding normal data distribution if the Shapiro-Wilk test indicated rejection. By applying rank biserial correlation calculations, researchers could determine the practical significance that revealed the training effects on teaching performance strengths. A mean difference analysis serves to detect changes between the pretest and the posttest. This initial design provides researchers with a base to evaluate programs at the start of their work and gives direction for following studies that can establish enhanced control conditions.

5. Ethical Considerations

The researcher obtained ethical permissions from DepEd Region IX before the study started. The researcher obtained permission from the MATATAG training program management to analyze pre-post

test results. Stakeholders received de-personalized findings after the research team made all personal data anonymous to protect privacy before validation.

Results

Demographic Profile of the Respondents

The study investigates results based on the four main research questions, including the respondents' profiles and posttest score evaluation, knowledge and skill enhancements through MATATAG Training, and training effectiveness in enhancing educators' competency.

Table 1: Demographic Profile of the Respondents

	Profile	Frequency	Percentage
Sex	Male	36	24.50%
	Female	111	75.50%
Plantilla Position	Head Teacher	10	6.80%
	Master Teacher	28	19.00%
	School Principal	10	6.80%
	Teacher	99	67.30%

Table 1 shows that most participants (75.50%) belong to the female group (n=111), alongside 24.50% (n=36) of participants identified as male. The prevalence of female teachers is connected to traditional gender roles with lower social classes, yet men avoid the profession because of poor pay and dissatisfaction with their work (Kundu, 2022). The education sector displays similar gender patterns because female workers exceed male staff in teaching capacities. Most participants in plantilla positions hold the role of teacher, with 67.30% (n=99) selecting this category from the sample group. The survey showed that Master Teachers hold 19.00% (n=28) of the positions, while both Head Teachers and School Principals have 6.80% (n=10) each of the total respondents. This distribution system mirrors a standard educational organization because classroom instructors constitute the primary group, while senior administrators and mid-level managers come next. The study provides data showing broad educator representation with special emphasis on those teachers who teach directly and deliver curriculum to students, as noted in 67.30% (n=99) of the respondents. The study results will provide an essential understanding regarding the effectiveness of the MATATAG Curriculum Training for all educational system personnel at various levels.

Magnitude of Knowledge/Skill Gains Among Educators After MATATAG Training

Table 2 shows the results of knowledge-and-skills testing before and after MATATAG Curriculum Training for both male and female educators and teachers, according to position. The educational intervention had positive effects on all participant subgroups because teachers from different demographic groups showed substantial learning gains.

For profile according to sex, the mean change of 2.000 points was observed among male educators whose initial pretest average was 16.056 (SD = 2.305), and their posttest average became 18.056 (SD = 2.329). The female educators exhibited slightly better improvements between pretest scores of 15.468 (SD = 2.515) and posttest scores of 18.342 (SD = 2.155), with a total increase of 2.874 points. The female participants doubled their learning outcomes and showed decreased score diversity compared to male participants after completing the training. Female teachers are more active than male teachers in being part of professional learning communities, with a moderate and significant relationship between Professional Learning Communities (PLC) and student achievement (Akram et al., 2023).

For profile according to Plantilla Position, Head Teachers increased by 2.400 points from 15.900 (SD = 2.424) to 18.300 (SD = 2.263). Master Teachers improved their total scores notably, starting at 15.500 (SD = 2.674) and finishing at 18.214 (SD = 2.114), with a total gain of 2.714 points. School principals have an average improvement of 2.400 points from 17.000 (SD = 1.563) to 19.400 (SD = 2.119). Teachers rose by 2.697 points from 15.475 (SD = 2.476) to 18.172 (SD = 2.218). The initial

knowledge level of school principals exceeded that of head teachers and other plantilla positions due to their leadership training and responsibility for the schools. However, head teachers attained almost the same level of knowledge as head teachers (2.400 points), as head teachers also held managerial tasks at schools. The pedagogical training provided through the program led Master Teachers and Teachers to achieve higher results, with 2.714 and 2.697 points, respectively. Master teachers excel in instructional supervision, coaching, and capacity development, but need a leadership training program to enhance their roles and improve their effectiveness. (Podador, 2023).

Table 2: Comparison of Pretest and Posttest Scores According to Profile

Profile		Pretest		Posttest	
		Mean	SD	Mean	SD
Sex	Male	16.056	2.305	18.056	2.329
	Female	15.468	2.515	18.342	2.155
Plantilla Position	Head Teacher	15.900	2.424	18.300	2.263
	Master Teacher	15.500	2.674	18.214	2.114
	School Principal	17.000	1.563	19.400	2.119
	Teacher	15.475	2.476	18.172	2.218

Significant Increase in Posttest Scores as Compared to Pretest Scores and the Effect of MATATAG Training

The Wilcoxon Signed-Rank Test, which appears in Table 3, assesses MATATAG Curriculum Training effectiveness through pre-intervention (pretest) and post-intervention (posttest) educator knowledge assessment. The measuring instruments show that trainees performed better through the completed training program. The baseline knowledge of Educators demonstrated high variability, as indicated by their mean pretest score of 15.612 (SD = 2.470), along with a substantial dispersion estimate. The mean score in the posttest assessment reached 18.272 (SD = 2.195) as the distribution remained wide, but educator skills showed significant growth. The obtained statistic value was 8887.500, while the p-value was lower than .001, indicating a statistically significant impact. The analysis testifies that the education program delivered through MATATAG directly causes the notable score differences detected between the start and completion of training. The Rank Biserial Correlation determined the extent of educators' knowledge and skill change following their training with the MATATAG Curriculum as a part of the Wilcoxon Signed-Rank Test calculations. The pretest and posttest score relationship demonstrates a powerful positive effect because the measured effect size stands at 0.827 on the -1 to 1 scale.

Table 3: Comparison of Pretest and Posttest Scores on Educators' Knowledge and Skills After MATATAG Curriculum Training

	Mean	SD	DE	Statistic	P-value	Remarks	Effect Size	Interpretation
Pretest	15.612	2.470	High	8887.500 ^a	<.001	Highly Significant	0.827	Strong Effect
Posttest	18.272	2.195	High					

The statistical result shows that the improvement in educators' performance after the training was statistically significant (as confirmed by the earlier p-value of <.001) and substantial in magnitude. Through practical professional development training, teachers acquired better capabilities to utilize knowledge and skills, which generated positive educational results and strongly affected educators (Cam & Koç, 2024).

Discussion

The results from this study effectively demonstrate that the MATATAG Curriculum Training successfully improves educator competency levels in the Pagadian City Division, which operates under the Department of Education Region IX. Demographic statistics showed that mostly female participants joined the study, while teachers comprised the most prominent participants. Female educators represent the majority of teaching staff in Philippine education because teaching is primarily a female-dominated profession in basic education, according to the Philippine Statistics Authority (2020). Research findings support the notion that focused competency-training programs substantially improve teaching abilities. The study results match global and local research, demonstrating how sustainable training for educators addressing contextual needs helps enhance the quality of teaching and student learning outcomes. The MATATAG curriculum has positively impacted history and geography education, but requires continued teacher support, professional development, and collaboration between educators and parents for sustainable improvements. (Balansag G et al., 2024). In conclusion, this research affirms the MATATAG Curriculum Training as a valuable strategy for enhancing educators' competencies. The study demonstrates why professional development should be structured based on data while providing actionable recommendations for policy scaling and resource investment strategies that should be deployed throughout the Philippine education system.

Knowledge Contribution

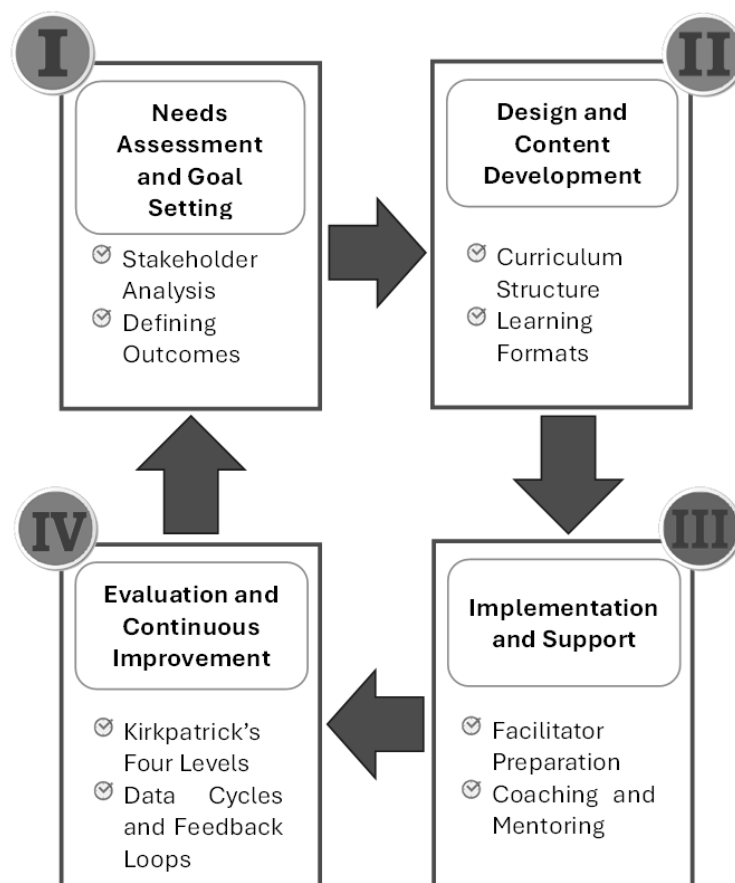
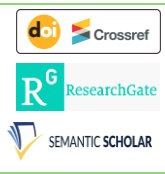


Figure 3: Professional Development Training and Evaluation to Produce Quality Educators

A structured, evidence-based professional development training with an evaluation system remains essential for developing a teaching workforce of high competence and effectiveness. The image demonstrates a four-part cyclical process that creates quality educators through systematic professional



needs assessment, followed by education design and consultation, which continues with outcome assessment for enhancement. The phases are as follows:

Phase I: Needs Assessment and Goal Setting. The foundation for efficient, professional development relies on completing the Needs Assessment and defining clear professional goals. During this phase, stakeholders are assessed to determine their key challenges, gaps, and highest priorities. The stakeholders include teachers, school leaders, curriculum developers, and community members. The training program obtains multiple viewpoints, which enables its content to match the requirements present in real-world settings. The phase requires clear definitions of measurable outcomes as its primary focus. The training establishes essential benchmarks through outcome specifications that detail planned improvements regarding teaching tactics, subject expertise, and classroom leadership competencies. Establishing specific goals keeps the development plan oriented and committed to its goals throughout the entire process.

Phase II: Design and Content Development. Moving forward from goal definition is the process of Design and Content Development. The designed curriculum structure must be created at this phase based on identified needs. The training design specifies its content order and essential topics in a manner that adheres to the professional requirements and educational targets from Phase I. Learning formats must be selected among workshops, online modules, collaborative projects, peer observations, and blended learning approaches. The selection of learning formats needs to follow adult learning principles by creating mechanisms for active participation and reflective application of knowledge in practical scenarios.

Phase III: Implementation and Support. Any training program requires successful execution through delivery, which becomes the core target of the Implementation and Support phase. The success of this stage depends heavily on trainer preparation since educators need to excel both in subject matter knowledge and instructional methods that help adult students learn actively. Regular mentorship and coaching programs assist educators in implementing their newly acquired practices. The supportive environment enables teachers to get feedback regarding practical teaching while reflecting on their improvement methods. Implementing this approach guarantees that academic knowledge becomes an effective teaching method that is transformative for classroom instruction.

Phase IV: Evaluation and Continuous Improvement. This part enables both the impact assessment of training initiatives and essential improvement measures. An evaluation process based on Kirkpatrick's Four Levels of Evaluation guides trainers in collecting complete data about training effectiveness during this stage. Organizations' continuous learning culture becomes possible because data cycles and feedback loops create an environment for constant improvement. The evaluation process teaches valuable information about how to improve content delivery alongside educational approaches and supportive methods before starting the next iteration of needs assessment and planning.

Recommendation

DepEd should adopt the MATATAG Curriculum Training as an institutional program because the improvements in teaching abilities demand a system-wide capacity-building approach. School divisions that routinely implement the MATATAG initiatives throughout the country will enhance national teaching quality standards. The noteworthy effect size indicates that investing additional resources in such top-quality research-backed training initiatives for professional development will significantly improve educational results. The data demonstrates that sustained teacher learning must be prioritized throughout educational reforms as a mandatory factor (UNESCO, 2021). The statistical evidence from this research study enables policymakers from DepEd to assess their professional development frameworks for improvement. As Fullan (2021) advocates, extracting evidence-based insights leads to improved administrative practices, which generate effective decisions during educational reform processes. The demographics indicate the necessity of building gender-responsive training strategies because women make up the majority of professionals who need support in professional development and cultural norms.





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