2026 Volume: 02 Issue: 05 www.ijrpa.com ISSN 2456-9995 Research Article

International Journal Research Publication Analysis

Page: 01-06

# TEACHERS' AWARENESS OF METACOGNITIVE PROCESSES AND ITS IMPACT ON PEDAGOGICAL COMPETENCE

***[1]Diosfredo Y. Bartolome, JR., [2]Marieta D. Cayabas, EdD, [2]Ramlah A. Duge, PhD**

*[1]DepEd-Cotabato Division-Batongbasag Elementary School, Philippines.*

*[2]Cotabato Foundation College of Science and Technology, Doroluman, Arakan, Cotabato, Philippines.*

**Article Received: 31 March 2026**

**Article Revised: 21 April 2026**

**Published on: 11 May 2026**

***Corresponding Author: Diosfredo Y. Bartolome, JR**

DepEd-Cotabato Division-Batongbasag Elementary School, Philippines.

DOI: https://doi-doi.org/101555/ijrpa.5639

## 2. ABSTRACT

This study examined the level of teachers' awareness of metacognitive processes and their pedagogical competence among 192 elementary school teachers in the Schools Division Office (SDO) of Cotabato during the school year 2025-2026. Employing a descriptive-correlational design, the study assessed teachers' metacognitive awareness across five dimensions: teaching strategies, designing and structuring lessons, using prompts, embedding higher-order thinking (HOT) tasks, and understanding learner diversity. Pedagogical competence was assessed in terms of content and pedagogical knowledge, lesson planning and delivery, classroom management, use of ICT to enhance teaching and learning, and assessment and evaluation. Descriptive statistics, Pearson r correlation, and multiple linear regression were utilized to analyze the data. Findings revealed that teachers were practically aware of metacognitive processes overall (WM = 3.92) and were reasonably competent pedagogically (WM = 4.14). A very low and generally non-significant correlation was found between metacognitive awareness and pedagogical competence. Regression analysis confirmed that metacognitive processes did not significantly predict pedagogical competence, except for understanding learner diversity, which emerged as a negatively significant predictor of classroom management. These findings highlight the importance of targeted professional development programs that bridge metacognitive awareness and practical pedagogical application.

**3. KEYWORDS:** *Metacognitive Awareness, Pedagogical Competence, Higher-Order Thinking, Teaching Strategies, Classroom Management.*

## 4. INTRODUCTION

The effectiveness of elementary education is deeply shaped by teachers' metacognitive awareness and instructional expertise—two interrelated factors that play a crucial role in fostering successful teaching and learning outcomes. Metacognitive competence, as characterized by Karlen et al. (2023), refers to the educators' ability to plan, oversee, and evaluate cognitive processes in both the teachers and their students. Zohar and Ben-Ari (2022) emphasized that it is essential for educators to nurture students' advanced thinking skills through metacognitive practices.

Pedagogical competence encompasses a broad spectrum of skills, including subject mastery, lesson planning, classroom management, ICT integration, and assessment practices (Islomovich & Ravshanbekovich, 2023). Studies have demonstrated that collaborative lesson study enhances pedagogical skills, improving classroom dynamics and student motivation (Aimah et al., 2023). Despite growing recognition of the role of metacognition in effective teaching, limited empirical evidence exists connecting teachers' metacognitive awareness with their demonstrable pedagogical competencies in the Philippine elementary school context.

This study sought to determine the level of teachers' awareness on metacognitive processes, assess their pedagogical competence, examine the relationship between the two constructs, and investigate the influence of metacognitive dimensions on pedagogical competence. Understanding these relationships is essential for informing professional development programs that can meaningfully enhance instructional quality.

## 5. MATERIALS AND METHODS

### *Research Design*

This study employed a quantitative descriptive-correlational design. The quantitative phase involved the collection and statistical analysis of numerical data from a representative sample of elementary school teachers in the SDO of Cotabato.

### *Participants*

The respondents consisted of 192 elementary school teachers from five municipalities within the 2nd Congressional District of Cotabato Province: Antipas (n=21), Arakan (n=60), Magpet (n=47), Makilala (n=68), and President Roxas (n=51). Probability sampling was employed using stratified random sampling to ensure representativeness.

### *Research Instruments*

Two structured questionnaire sections were used. Part I assessed Metacognitive Process Awareness using a 5-point Likert scale (1=Very Negligibly Aware to 5=Extremely Aware) across five sub-dimensions: teaching strategies, designing and structuring lessons, using prompts, embedding HOT tasks, and understanding learner diversity. Part II assessed Pedagogical Competence (1=Very Slightly Competent to 5=Very Competent) across five sub-dimensions: content and pedagogical knowledge, lesson planning and delivery, classroom management, use of ICT, and assessment and evaluation. Items were adapted from validated instruments in relevant literature.

### *Statistical Analysis*

Weighted means and descriptive scales were used to determine levels of awareness and competence. Pearson r correlation was employed to assess the relationship between metacognitive awareness dimensions and pedagogical competence dimensions. Multiple linear regression analysis was used to determine the influence of metacognitive dimensions (independent variables) on each domain of pedagogical competence (dependent variable).

## 6. RESULTS AND DISCUSSION

### *Level of Teachers' Awareness on Metacognitive Processes*

Overall, teachers demonstrated practical awareness of metacognitive processes (WM=3.92). Teaching strategies registered the highest mean (4.47, Extremely Aware), indicating that teachers consciously integrate metacognitive considerations into instruction. Embedding HOT tasks (3.67), designing and structuring lessons (3.80), and using prompts (4.20) were rated practically aware. Understanding learner diversity recorded the lowest mean (3.47, Practically Aware), signaling a critical area for growth.

***Table 1. Level of Teachers' Awareness on Metacognitive Processes.***

| Metacognitive Dimension | Weighted Mean | Description |
|---|---|---|
| Teaching Strategies | 4.47 | Extremely Aware |
| Using Prompts | 4.20 | Practically Aware |
| Designing and Structuring Lessons | 3.80 | Practically Aware |
| Understanding Learner Diversity | 3.47 | Practically Aware |
| Embedding HOT Tasks | 3.67 | Practically Aware |
| Overall | 3.92 | Practically Aware |

### *Level of Teachers' Pedagogical Competence*

Teachers were found to be reasonably competent overall (WM=4.14). Classroom management ranked highest (4.47, Very Competent), followed by lesson planning and delivery (4.40, Very Competent). Content and pedagogical knowledge (4.15), assessment and evaluation (4.01), and ICT integration (3.69) were rated reasonably competent. These findings suggest that teachers excel in managing classrooms and delivering lessons but require further support in ICT integration and refined assessment practices.

***Table 2. Level of Teachers' Pedagogical Competence.***

| Pedagogical Competence Dimension | Weighted Mean | Description |
|---|---|---|
| Lesson Planning and Delivery | 4.40 | Very Competent |
| Classroom Management | 4.47 | Very Competent |
| Content and Pedagogical Knowledge | 4.15 | Reasonably Competent |
| Assessment and Evaluation | 4.01 | Reasonably Competent |
| Use of ICT | 3.69 | Reasonably Competent |
| Overall | 4.14 | Reasonably Competent |

### *Relationship between Metacognitive Awareness and Pedagogical Competence*

Correlation analysis revealed a very low overall relationship between metacognitive awareness and pedagogical competence. Statistically significant positive correlations were observed between teaching strategies and lesson planning and delivery ($r=0.54$, $p=0.04$), and between embedding HOT tasks and lesson planning and delivery ($r=0.53$, $p=0.04$). A significant negative correlation was found between understanding learner diversity and classroom management ($r=-0.63$, $p=0.01$), suggesting that heightened sensitivity to learner adversity may complicate classroom discipline.

### *Influence of Metacognitive Processes on Pedagogical Competence*

Multiple regression analyses for each competence domain yielded predominantly non-significant F-values, indicating that metacognitive awareness dimensions collectively did not significantly predict pedagogical competence in most domains ($p>0.05$). However, understanding learner diversity emerged as a significant negative predictor of classroom management ($\beta=-0.63$, $t=-2.48$, $p=0.030$), explaining approximately 54% of variance in that domain. These results suggest that while metacognitive awareness is important, practical pedagogical competence may be shaped more strongly by teaching experience, professional training, and institutional support.

## 7. CONCLUSION

This study revealed that elementary teachers in SDO Cotabato are practically aware of metacognitive processes and reasonably competent pedagogically. While certain metacognitive dimensions—particularly teaching strategies and embedding HOT tasks—show positive correlations with lesson planning competence, the overall predictive influence of metacognitive awareness on pedagogical competence is limited. Understanding learner diversity was the only significant predictor, and its negative relationship with classroom management underscores the challenge teachers face in balancing sensitivity to student adversity with maintaining classroom order. Professional development programs should explicitly bridge metacognitive knowledge and pedagogical application, with targeted support for adaptive real-time instruction and inclusive teaching strategies.

## 8. ACKNOWLEDGEMENTS

The researchers expresses sincere gratitude to the School Division Office of Cotabato, the school principals, and the teacher-respondents for their cooperation and support in the conduct of this study. Special thanks are extended to the Graduate School of Cotabato Foundation College of Science and Technology for the invaluable guidance provided throughout the research process.

## 9. REFERENCES

1. Aimah, S., Ifadah, M., & Linggar Bharati, D. A. (2023). Building teacher's pedagogical competence and teaching improvement through lesson study. UNIMUS.
2. Amaliah, A., Clorion, F. D. D., & Pasaribu, G. (2024). The Importance of Mastering Teacher Pedagogical Competence in Improving the Quality of Education. PEBSAS: Jurnal Pendidikan Bahasa Dan Sastra, 2(1), 29–37.
3. Budin, S., Patti, A. L., & Rafferty, L. A. (2022). Teaching cognitive and metacognitive strategies to support learning and independence. In High leverage practices for inclusive classrooms (pp. 201–217). Routledge.
4. Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. American Psychologist, 34(10), 906–911.
5. Hausman, H., Myers, S. J., & Rhodes, M. G. (2021). Improving metacognition in the classroom. Zeitschrift für Psychologie.

6. Islomovich, I. T., & Ravshanbekovich, G. S. (2023). Development of pedagogical competence in future teachers. The American Journal of Management and Economics Innovations, 5(04), 12–16.
7. Karlen, Y., Hirt, C. N., Jud, J., Rosenthal, A., & Eberli, T. D. (2023). Teachers as learners and agents of self-regulated learning. Teaching and Teacher Education, 125, 104055.
8. Kuhn, D. (2022). Metacognition matters in many ways. Educational Psychologist, 57(2), 73–86.
9. Rivas, S. F., Saiz, C., & Ossa, C. (2022). Metacognitive strategies and development of critical thinking in higher education. Frontiers in Psychology, 13, 913219.
10. Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. Contemporary Educational Psychology, 19(4), 460–475.
11. Stanton, J. D., Sebesta, A. J., & Dunlosky, J. (2021). Fostering metacognition to support student learning and performance. CBE—Life Sciences Education, 20(2), fe3.
12. Wicagsono, M. A., & Al, B. M. A. M. H. (2023). Strategies for Improving Teacher Pedagogic Competence Industrial Revolution Era 4.0. Multicultural Islamic Education Review, 1(1), 15–25.
13. Zohar, A., & Ben-Ari, G. (2022). Teachers' knowledge and professional development for metacognitive instruction. Metacognition and Learning, 17(3), 855–895.
14. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory Into Practice, 41(2), 64–70.