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When Reflection Meets Understanding and Learning: A Qualitative Descriptive Inquiry on the Role of Decision-Making in Student Metacognitive Processes

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Abstract: Poor metacognitive awareness is a problem in education. I examined students' viewpoints on reflecting; and understanding and learning aspects of metacognition. I utilized descriptive qualitative design involving 15 learners in focus group discussions; and analyzed the data using thematic analysis. The modified metacognitive construct highlights the mutual influences of reflection and understanding and learning. I ascertained that decision-making emerges as a crucial element that enables learners to effectively shift from one side to the other. I suggested that teachers may embed decision-making in pedagogical activities to enhance reflection and understanding and learning. Researchers may examine decision-making as a mediator and develop tools for the aspects subjected in the study and utilize emerging sub-themes as indicators.

Keywords: Reflection meets understanding and learning, qualitative descriptive inquiry, role of decision making, student metacognitive processes

Introduction

This chapter presents the problem and its setting, the significance of the study, the research questions, the theory and theoretical lens, and the assumptions.

The Problem and Its Scope

The lack of metacognitive awareness among learners has increasingly drawn my attention as I examined literature on students' learning processes. However, recent educational research shows that many secondary school students continue to prove limited metacognitive awareness in their academic tasks. Globally, studies have shown that many learners struggle to assess their metacognitive awareness. Such limitations suggest that many students are still passive recipients of information rather than active regulators of their learning processes (Popandopulo et al., 2023). Furthermore, the growing emphasis on critical thinking and self-regulated learning in modern education has highlighted persistent gaps in students' metacognitive skills, particularly among adolescents expected to engage in higher-level academic tasks (Agustina et al., 2025).

Literature from various countries reveals similar concerns regarding students' metacognitive awareness. In Kazakhstan, secondary school learners revealed that many students exhibit only moderate levels of metacognitive awareness (Popandopulo et al., 2023). In South Korea, studies found that high school students often inconsistently use metacognitive strategies (Kwon & Yu, 2023). Similarly, students in Indonesia have shown limited understanding of metacognitive awareness (Agustina et al., 2025).

In the Philippine context, studies have reported similar concerns about students' metacognitive awareness. Research involving Filipino learners shows insufficient awareness of the strategies they use to understand, monitor, and evaluate their learning. Studies reveal that many learners find it hard to deliberately manage their cognitive activities during academic activities (Reyes-Chua et al., 2023).

The lack of metacognitive awareness among Grade 9 learners may have important effects on their academic development. Without strong metacognitive awareness, students may struggle to evaluate their understanding, select proper strategies, and reflect on their learning outcomes. As academic tasks in secondary education become increasingly complex, learners who lack awareness of their own thinking processes may struggle to navigate the demands of learning and achieve meaningful learning outcomes. In response to this urgency, this study addresses the issue.

Significance of the Study

As I reflected more deeply on the purpose of this study, I came to recognise how it resonates with United Nations Sustainable Development Goal 4: Quality Education, which advocates for inclusive and equitable quality education and the promotion of lifelong learning opportunities for everyone. In exploring Grade 9 learners' metacognitive awareness, I became increasingly interested in how students themselves make sense of their thinking processes. I wanted to examine how they become aware of the ways they plan, monitor, and evaluate their learning strategies as they engage in academic tasks. As I examined this focus further, I also realised that the study connects with United Nations Sustainable Development Goal 10: Reduced Inequalities. I

view metacognitive awareness as a vital bridge that helps every student address differences in learners' abilities and learning experiences. In helping learners unlock the how of their own thoughts, we hand them a key to level the playing field, ensuring that their starting point does not define the end of their journey.

I also observed the potential value of this study for institutions such as the Department of Education, Holy Cross of Davao College in the Philippines, and others that continually seek ways to improve instructional practices.

Finally, this study could contribute toward fostering reflective, independent, and self-regulated learners, particularly among Grade 9 students.

Research Questions

This study aimed to describe learners' viewpoints on metacognition, including reflection, understanding, and learning. Specifically, it sought answers to the following questions:

1. What are the descriptions of Grade 9 learners in terms of their capability for reflection in terms of thinking, learning, remembering, and solving problems?
2. What are the descriptions of Grade 9 learners on their learning and understanding in terms of planning, monitoring, and evaluating?

Theoretical Framework

I anchored this study on Flavell's Metacognition Theory. According to Flavell (1979), metacognition refers to "knowledge and cognition about cognitive phenomena," meaning that learners can reflect on how they think, learn, remember, and solve problems. This awareness allows individuals to plan, monitor, and evaluate their thinking processes, thereby improving learning and understanding.
Below, I illustrate Metacognition Theory (Figure 1).

Conceptual Lens

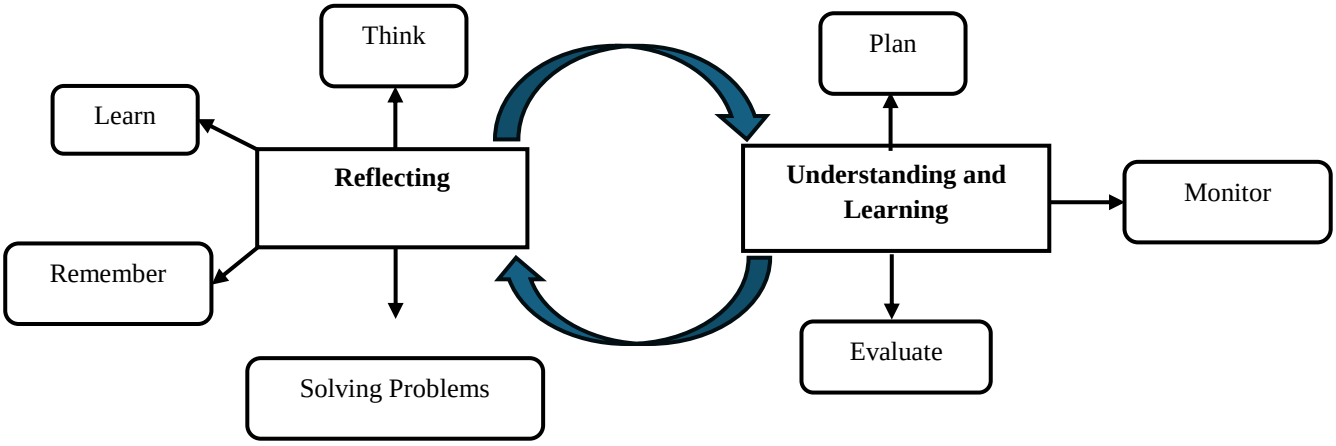

Figure 1: Metacognition Theory

Assumptions

In this study, I assumed that students' perceptions of metacognitive awareness align with the theory's assertions. Nevertheless, I also assumed that they are students' perceptions that do not limit themselves to the themes identified in the theory. However, I assumed that the data or information I collected would expand the boundaries of the theory.

Methodology

In this chapter, I presented the methods I used, including the research design, the study locale, the sample and sampling techniques, data-gathering procedures, and data analysis. I also discussed the trustworthiness requirements considered in this study.

Research Design

In this study, I employed a descriptive qualitative design. This design aims to present perceptions of events in everyday language while remaining close to the participants' accounts (Sandelowski, 2010). This design was appropriate for the study since my goal was to understand how Grade 9 learners describe and make

sense of their own perspectives. Through this approach, I sought to capture and interpret the meanings participants attach to their reflections on thinking, learning, remembering, and problem-solving. One advantage of this design is that it invites learners to speak for themselves, allowing me to gather richand intimate insights directly from their own words.

Locale of the Study

I conducted this study in one Department of Education Cluster 6 school in Davao City. Davao City is one of the largest and most advanced cities in Mindanao. The city hosts many public and private schools that serve diverse student populations. These schools are administered by the Department of Education–Schools Division of Davao City and implement the K–12 curriculum. This educational setting provided a proper context for examining Grade 9 learners' metacognitive awareness.

Sample and Sampling Technique

The participants in this study were 15 Grade 9 students drawn from various sections throughout the 2025-2026 school year. I purposely chose junior high school learners because metacognitive learning remains a challenge at this level, particularly in monitoring and regulating thinking during learning tasks. Studies show that many students demonstrate only average levels of metacognitive awareness and still struggle to plan, monitor, and evaluate their learning.

In selecting participants for this study, I employed criterion sampling, a form of purposive sampling. I used criterion-based purposive sampling, intentionally selecting participants who met specific criteria relevant to the research to gain meaningful insights from individuals with direct experience with the phenomenon being studied (Patton, 2015).

Data Gathering Technique

I collected data primarily through focus group discussions. A focus group discussion (FGD) is a qualitative data-gathering technique in which a small group of participants discusses a particular topic under the guidance of a researcher or moderator. The purpose of an FGD was to explore participants' perceptions through group interaction. According to Morgan (1997), focus groups are a research method that collect data through carefully planned group discussions to obtain participants' perceptions of a defined area of interest. Through this interaction, participants were encouraged to share ideas, respond to one another, and reflect on their perceptions, allowing the researcher to gather deeper insights.

Data Analysis

In this study, I employed thematic analysis to identify and interpret recurring patterns. I immersed myself in the data and applied verbatim coding (Saldaña, 2016). Such a technique offers both flexibility and rigour in exploring the complexity of participants' perspectives (Braun & Clarke, 2006). I organised the data systematically while interpreting the meanings. I followed the six-phase framework, including familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report.

Ethical Considerations

In this study, I adhered to trustworthiness (Adler, 2022). I gave careful attention to learners' perspectives. Guided by Lincoln and Guba's (1985) framework, I applied the requirements of credibility, transferability, dependability, and confirmability.

I engaged in member checking, peer debriefing, and reflecting carefully on whether my interpretations truly represented the meanings expressed by the participants. I provided rich and detailed descriptions of the perceptions. I documented each step of the study: development of the interview guide, data collection, coding, and analysis. Finally, I kept reflective notes. I was also mindful of my own perspectives during the analysis. With this trustworthiness, my study secured clearance from the Society for Moral Integrity and Legal Ethics (SMILE).

Results

In this section, I presented the results.

Reflecting: Becoming Aware of One's Thinking, Learning, Remembering, and Solving Problems

As I carefully listened to the learners' voices across the three focus group sessions, I began to sense that reflection served as the starting point of their learning journey. Their stories painted a vivid picture of how they navigate their own education, how they identify their personal hurdles, celebrate their strengths, and tackle academic obstacles. Watching them speak, I felt as though I were witnessing a series of inward turns of each

learner, paused to examine their own mind with the same focused clarity one uses when looking into a mirror. In these moments of self-observation, there was a clear, growing sense that their internal thought patterns directly shaped their learning experiences.

One participant articulated this self-awareness with striking clarity, explaining "As a student, my metacognitive knowledge is understanding ko kung paanoakonatututo. Understanding ko kung anoyunglakas ko, weaknesses at learning style ko…"(FGD_G1_P5). As the learner spoke, I imagined them carefully mapping the landscape of their own intellect, noticing where the terrain of understanding was smooth and where it became a difficult climb. It strongly aligned with my own experience as an educator. It reminded me of those pivotal moments in my career when I realized that genuine learning is not just about absorbing content; it is about discovering the unique way your own mind works. I, too, found that my growth accelerated once I finally understood the rhythm of my learning guides.

A similar sentiment was shared by another student, who spoke with a touch of hesitation about their own learning perceptions, balancing an awareness of their strengths with the reality of the distractions that often pull at their focus. The participant shared, "As a grade 9 learner, I describe my metacognitive knowledge as my awareness of how I learn best. Alam ko kung ano ang strengths ko, like understanding lessons quickly, and my weaknesses like getting distracted…"(FGD_G2_P7). Listening to this, I could almost feel the learner pause to watch the ebb and flow of their own attention, like someone seeing a shift in the wind. This mention of distraction brought me back to my own youth, recalling how my focus would sometimes drift like a candle flame flickering in a sudden breeze. It reminded me of the conscious effort it took back then to steady that light and remain anchored to the task at hand.

The theme of reflection also surfaced in how the students described their methods for retaining information. One participant explained, "Making a reviewer (sometimes) effective siya actually because inu-ulit ko siyabinibigkas*…"*(FGD_G1_P1). As I sat with this thought, I envisioned the learner softly reciting their lessons, letting the words' sound echo in their mind until the information finally found a place to rest in their memory. It made me think of how repetition acts like gentle waves, slowly smoothing the jagged edges of a new idea until it feels familiar. I recalled using this very same strategy as a student, like reading my notes aloud until the information felt natural and easy to recall.

Likewise, another learner described how certain strategies help strengthen memory. The participant stated, "Active recall worked for me because it trains my brain to remember information on its own…" (FGD_G2_P7). Reflecting on this, I sensed the learner treating their mind like a muscle intentionally exercised, pulling knowledge forward until it became stronger and more readily available. It felt like opening a door repeatedly until the path to understanding became second nature. In my own experience, retrieving information without the safety net of notes has always been the key to truly owning a lesson, particularly when under the pressure of an examination.

Furthermore, reflection was clearly present in how the learners approached problem-solving. One participant, taking a slow, deep breath, shared, "Kapag may problemaakosa class, halimbawasa Math, babasahin ko muna ng pauli-ulit ang mga questions…sinusulat ko din sa scratch paper ang mga hints para mas madalikongmakuha ang mga formulas…"(FGD_G1_P5). As I considered this, I could almost see the students leaning over their work, scanning the question for hidden clues. The "hints" they wrote down resemble a small trail marker carefully placed along a path to guide them to the solution. I remember following a similar process myself, carefully deconstructing a problem and jotting down every detail to ensure I did not lose my way.

Another learner expressed a related idea by following a structured sequence of steps when solving problems. The learner explained, "When I solve a problem, I first read and understand the question para malaman ko kung ano ang kailangan. Tapos, I check what I need. I plan how to solve it, then do it step by step."(FGD_G2_P7). By interpreting this, I could sense the students' internal organisation: how they pause to truly digest the problem before mapping out a route and following it with care. It reflects a learner who exercises conscious control over their thinking, deliberately navigating away from confusion. As a teacher, I have often seen that those who embrace this step-by-step journey are the ones who arrive at their destination with the most confidence.

Collectively, these shared reflections offered a profound window into how Grade 9 learners think, learn, remember, and solve problems through the lens of reflective awareness. Through these personal insights, they are beginning to grasp the inner workings of their own minds, developing a self-awareness that will guide their future choices. I believe, both as a student and as an educator, that this moment of realisation is the true turning point when a learner finally takes control of their own educational journey.

Understanding and Learning: Planning, Monitoring, and Evaluating Learning

As I examined the participants' reflections on their own learning, I began to see a clear pattern. These students actively steer their educational experiences through careful planning, consistent monitoring, and honest

evaluation. Their stories formed a vivid portrait of young learners organising their world, double-checking their understanding, and pausing to reflect on their performance. Listening to them, I felt as though I were watching student-navigators, intentionally charting a course for their own intellectual growth.

One participant offered a window into how planning brings order to their daily academic life, sharing, "…I plan my tasks by making a study schedule and setting academic goals for each subject…" (FGD_G2_P8). As I sat with this response, I imagined the students laying out their responsibilities like pieces on a chessboard, carefully arranging each move to ensure no subject was left behind. This finding resonated with my own memories of being a student; I remember how a simple schedule acted as an anchor, helping me feel less swept away by the tide of academic demands and more in command of my own time.

Another student's voice highlighted how planning serves as a vital tool for tracking progress. The participant explained, "Gumagawaako ng weekly plan, sinusulat ko lahat ng mga assignments, quizzes, and projects ko." (FGD_G1_P5). As I reflected on this statement, I could almost see the learner carefully listing each task, much like a traveller marking checkpoints along a long road. Every entry served as a quiet reminder, pulling them forward. In my own journey, I found that visualising the tasks ahead provided a clear sense of direction and purpose.

The process of monitoring learning also stood out as a crucial habit. One participant explained, "…I track my scores and feedback from teachers or classmates para malaman ko kung nag-improve baako…"(FGD_G3_P14). Reflecting on this, I sensed the learner quietly checking their progress, much like a hiker consulting a compass while traversing unfamiliar woods. I have long believed in the value of feedback as it serves as a mirror that reveals our growth and highlights areas that require further attention.

The importance of verifying one's own understanding was highlighted in this study by a participant who uses rereading as a primary strategy. The participant shared, "When I feel confused while studying, I usually reread my notes or textbooks para siguradongtama ang naintindihan ko…" (FGD_G2_P7). While listening to this statement, I imagined the learner returning to their notes, as if revisiting a trusted map, to ensure they are still moving in the right direction. I remember doing the same whenever I felt uncertain, going back to my notes to clarify ideas and strengthen my understanding.

Evaluation also appeared as a vital step in how these learners assess their own success. One participant explained, "Once my score was high, I knew the lessons were effective. On the other hand, paglow lang yung score ibigsabihindiko pa naintindihan at baguhin ang way kung paano mag-aral o magstudy." (FGD_G1_P1). As I reflected on this response, I could see the learner looking back at their results and retracing their steps to see which path led to victory and which needed a change in direction. Much like this student, I have often used my own results as a gauge to decide if my methods were serving me well or if it was time for an innovative approach.

Finally, another participant provided a vivid account of reviewing their performance after a challenge. The learner explained, "After finishing a task or exam, I know if my study method worked well by checking my score or how easily I answered the questions. Kung mahirap pa rin o maramiakongmali, I know I need to improve my study method para next time mas effective." (FGD_G2_P7). As I reflected on this, I pictured the student recalling the specific feeling of the exam, whether the answers flowed easily or felt like a struggle, and using that intuition to refine their preparation. As an educator, I have observed that students who engage in genuine self-reflection are more likely to thrive, as it enables them to take ownership of their learning and become the architects of their own success.

Together, these voices illustrate how Grade 9 learners regulate their learning through planning, monitoring, and evaluation. Through these deliberate actions, they moved beyond merely completing school tasks and instead actively shaped their own learning experiences while taking responsibility for their outcomes. I have come to realise that these habits are building blocks of independence and foster lifelong learning.

Deciding: Translating Reflection, Understanding, and Learning

As I sat with the findings from the various stages of reflecting and learning, I began to see that decision-making is the quiet space where everything finally weaves together. It felt to me like standing at the edge of a bridge, on one side are the students' internal thoughts and self-awareness, and on the other side are the tangible actions they take. In listening to them, I could see that their strategies weren't just static ideas; they were moving forward, actively shaping the choices they make in their academic lives. And in many ways, deciding felt like the precise moment when a thought finally learns to walk.

One participant captured this transition beautifully when they shared, "I decide what task to prioritise and how much time to spend on each subject by thinking about which subject is harder for me and which I struggle with the most…" (FGD_G2_P8). As I reflected on this response, I imagined the learner holding a quiet, honest conversation with themselves, listening to their own struggles, and letting that vulnerability guide their next step. It brought me back to my own teaching, where I have often noticed that a student's real growth does not

start when they have all the answers, but when they begin to pay attention to what they do not know. In that light, difficulty stops being a wall and starts being a compass. I have often guided my own students to lean into their weak areas, and it is always moving to see how that one choice can spark such meaningful progress.

In a related way, another student shared, “Mas nagde-decide ko kung anouunahinna task kapagtinitingnan ko kung alin ang pinakamahirap, pinaka-importante, at may malapitna deadline…” (FGD_G3_P14). As I listened to this, I could almost see the learner standing before a table covered in assignments, weighing each one carefully in their hands like smooth stones. I sensed a deep, quiet calculation—not just of the hours on a clock, but of the importance and the spirit required for each task. It reminded me of my own academic path, where I eventually learned to listen to the weight of a responsibility rather than just counting how many I had left.

Another participant expressed, “Pinipili kung unahinyungmalapitnayung deadline o mahirapgawin kasi it takes time kapagmahirap.” (FGD_G1_P1). As I reflected on this, there was a sense of deep familiarity here, as if I were walking a path I had travelled many times myself, that delicate dance between urgency and depth. It wanted to watch the students move through their day with heightened awareness, recognising that some tasks' delivery demands more space, more patience, and more of their soul. In my own time as a student, I found that honouring those difficult tasks early on was the only way to keep the pressure from becoming overwhelming.

Furthermore, a learner explained, “What helps me decide which task to prioritise is urgency and difficulty, kasi yung important or mahirapna tasks, o do them first.” (FGD_G2_P7). As I made sense of this, I realised that the students were not just reacting, but they were actively designing their own approach. It was like watching someone carefully clearing their path before taking a single step, choosing not the easiest road, but the one that would lead to the most excellent progress. In my classroom, I have seen repeatedly that the students who tackle hard things first are the ones who build the strongest resilience over time.

Another learner added, "…I usually plan my tasks by managing my time wisely and organising my to-do list based on deadlines, difficulties and importance…” (FGD_G3_P14). As I reflected on this, I pictured the learner sketching out their journey, creating a map where every task had its own unique place and direction. It reminded me of those moments when I had to pause and organise my own thoughts before I could move forward, realising that when you have clarity in your plan, you find a new kind of confidence in your actions.

Bringing these voices together, I realised that deciding is not just about choosing what to do next; it is about a learner learning to listen to themselves. It means that students are beginning to trust their inner voice, allowing each experience to serve as a guiding reference. It is where a quiet transformation happens: reflection turns into intention, and intention finally becomes action. When a learner trusts their own judgment, they finally become truly independent.

Through this lens, I recognised that decision-making is where metacognition, often invisible, becomes observable. It is where the hidden machinery of thinking takes the form of real-world choices. Like a compass that only has value if we know how to read it, a student’s reflection guides them, but it is the decision to follow that needle that sets them in motion. In the end, deciding is the moment a learner truly takes ownership of their life. It is not loud or dramatic; it is a quiet, intentional step forward that, over time, carves out the entire path of their academic journey.

In the end, as I reflected on their perceptions, I realised that deciding is the moment when learners truly take ownership of their learning. It is not loud or dramatic, but a quiet and intentional step forward that, over time, carves out the entire path of their academic journey.

Discussions

In this chapter, I discussed the findings of my study. I also include the implications for practice and the study's future direction.

Reflecting: Becoming Aware of One’s Thinking, Learning, Remembering, and Solving Problems

My findings highlight that the Grade 9 learners demonstrated a notable level of reflective awareness by identifying their strengths, weaknesses, and thinking processes in learning, remembering, and solving problems. This awareness enables them to understand how they learn and guides them toward more effective self-directed academic decisions.

With this finding, I agree with the idea that learners with strong metacognitive awareness can recognise their learning processes, set proper goals, and adjust their strategies effectively (Tuononen et al., 2023). Likewise, I affirm Xue's (2026) finding that students with metacognitive awareness actively reflect on their strategies, monitor their understanding, and evaluate their learning to improve performance. However, I contradict Broadbent and Poon (2023), who claimed that many students demonstrate limited metacognitive awareness, particularly in accurately recognising their strengths, weaknesses, and thinking processes. Though Broadbent and Poon did not divulge their study participants, I believe that I have more than theirs.

Understanding and Learning: Planning, Monitoring, and Evaluating Learning

My findings revealed that learners actively regulate their learning through planning, monitoring, and evaluating their academic tasks. These processes help them become more aware of their performance and adjust their strategies to improve understanding and learning outcomes.

My findings align with the claim that learners who apply self-regulated and metacognitive strategies, such as planning, monitoring, and reflection, are more likely to achieve improved academic outcomes (Arrafii et al., 2025). Similarly, I also affirm Zafar & Rasheed (2023), who explicitly state that the use of metacognitive strategies such as planning, monitoring, and evaluating significantly improves students' academic performance and self-regulated learning skills. On the other hand, I contradict de Bruin et al. (2023), who demonstrate inaccurate self-monitoring and overestimate their understanding, which can limit the effectiveness of planning, monitoring, and evaluation strategies. Their findings show that without proper guidance, learners may struggle to accurately assess their performance and fail to adjust their strategies appropriately, resulting in less effective learning outcomes. Although de Bruin et al. relied on synthesised findings from multiple studies, this study provides evidence with 15 participants and offers more recent, contextually grounded evidence.

Deciding: Translating Reflection, Understanding, and Learning

This theme emerged based on the moment when learners became truly conscious of their thinking and learning processes. My findings demonstrate that learners translate their reflections and understanding into decisions by prioritising tasks based on the most challenging, most pressing, and most vital. This process reflects how they take control of their learning, turning awareness into purposeful and independent action. With this finding, I agree with the idea that learners who engage in self-regulated learning processes can transform their metacognitive awareness into strategic decision-making, particularly in prioritising tasks, managing time, and selecting appropriate learning strategies (Panadero, 2023). Similarly, Greene et al. (2023) assert that those who actively monitor and evaluate their learning are more likely to adapt their strategies and make informed decisions, such as adjusting effort, prioritising tasks, and responding to academic demands, demonstrating a strong link between awareness and action. Nonetheless, I contradict Baars et al. (2023), who demonstrate awareness of their learning processes, many of whom still struggle to apply this awareness in making appropriate learning decisions, particularly in prioritising tasks and regulating effort. Although the participants in Baars et al.'s study were unclear, my study provides more substantial evidence based on direct participant responses.

Realisation's

The original paradigm views meta cognition as an interconnected relationship between reflecting and understanding elements. The paradigm manifests direct mutuality, in which one element affects the other and vice versa. Considering the thoughts and viewpoints of the people involved in my study, the findings indicate that decision-making plays a significant role in this mutuality. Meaning, learners must decide before they understand what they reflect on. In the same way, they need to make decisions before they can reflect on what they have learned. Hence, in the overall reflection-understanding link, decision-making as an emerging element is crucial.

Modified Paradigm

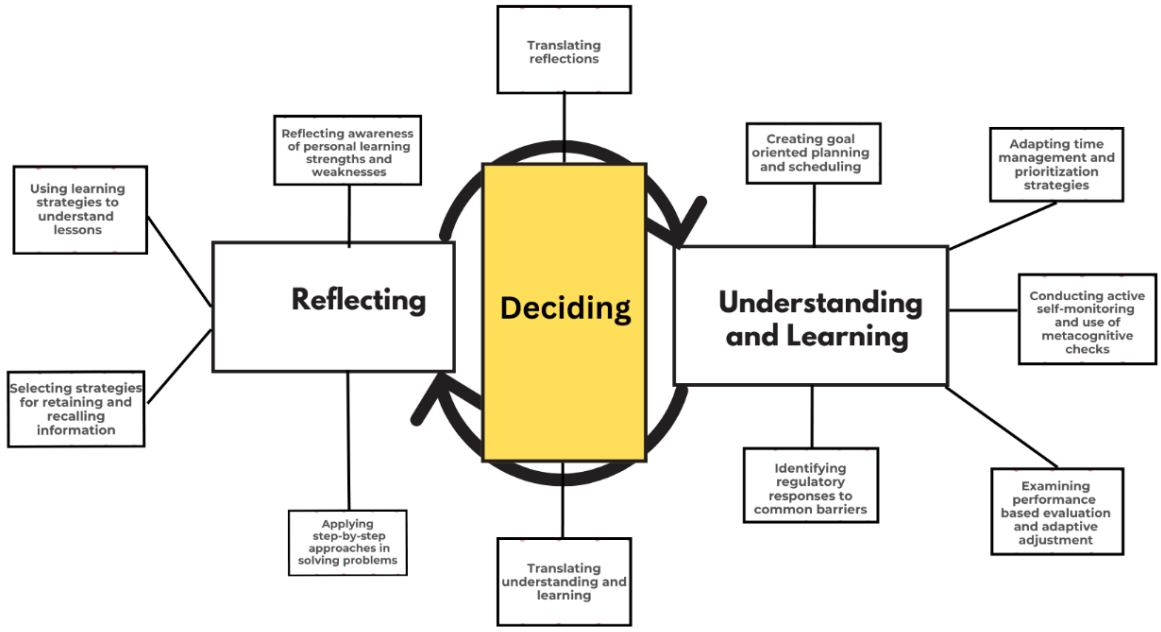

Figure 2: Modified Paradigm of Metacognition Theory

Implications for Practice

Upon reflecting on the modified paradigm, I realised that teachers may deliberately integrate decision-making opportunities within learning tasks to strengthen the mutual process of reflection and understanding. Moreover, implement a learning program that develops students' decision-making skills. Thus, guiding learners to make purposeful choices before and after reflection, and before and after understanding and learning.

Future Direction

Based on my findings, the modified paradigm clearly outlines the study's future direction by proposing mediation analyses that examine decision-making as a mediator between reflection, understanding, and learning. Moreover, exploratory factor analysis is also a future direction for developing tools for reflection, decision-making, understanding, and learning. The sub-themes emerging from this study may serve as indicators of the variables mentioned.

References

[1]. Adler, R. H. (2022). Trustworthiness in qualitative research. *Journal of Human Lactation, 38*(4), 598–602. https://doi.org/10.1177/08903344221116620

[2]. Agustina, S., Huda, N., & Sainuddin, S. (2025). Global trends and research clusters in student metacognition in mathematics education. *Indonesian Journal of Innovation Studies, 26*(4). https://doi.org/10.21070/ijins.v26i4.1800

[3]. Arrafii, M., Sumarsono, D., & Suadiyatno, T. (2025). Self-regulated learning strategies in distance education: Insights from Indonesia. *Journal of Pedagogical Sociology and Psychology, 7*(4), 160–173. https://doi.org/10.33902/jpsp.202534897

[4]. Baars, M., Leopold, C., & Paas, F. (2023). Self-explanatory steps in problem-solving tasks to improve self-regulation in secondary Education. Journal of Educational Psychology, 110(4), 578–595. https://doi.org/10.1037/edu0000223

[5]. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

[6]. Broadbent, J., & Poon, W. L. (2023). Self-regulated learning strategies and academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education, 56*, 100880. https://doi.org/10.1016/j.iheduc.2015.04.007

[7]. de Bruin, A. B. H., Roelle, J., Baars, M., & van Gog, T. (2023). Improving self-monitoring and self-regulated learning: The role of delayed judgments of learning. *Educational Psychology Review, 35*(1), 1–23. https://doi.org/10.1016/j.learninstruc.2012.01.003

[8]. Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist, 34*(10), 906–911. https://doi.org/10.1037/0003-066X.34.10.906
[9]. Greene, J. A., Costa, L. J., Robertson, J., Pan, Y., & Deekens, V. M. (2023). Exploring relations among self-regulated learning processes and students' learning outcomes: A meta-analysis. *Educational Psychology Review, 35*(2), 1–28. https://doi.org/10.1016/j.compedu.2010.04.013
[10]. Kwon, Y., & Yu, S. (2023). Visual cues and metacognitive strategies in second-language listening assessment among Korean high school students. *Educational Technology Research and Development*.
[11]. Lincoln, Y. S. & Guba, E. G. (1985). Naturalistic inquiry. SAGE Publications. https://files.eric.ed.gov/fulltext/EJ1320570.pdf
[12]. Morgan, D. L. (1997). *Focus groups as qualitative research* (2nd ed.). SAGE Publications.
[13]. Panadero, E. (2023). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology, 14*, 1–15. https://doi.org/10.3389/fpsyg.2017.00422
[14]. Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). SAGE Publications.
[15]. Popandopulo, A., Kudysheva, A., Fominykh, N., Nurgaliyeva, M., & Kudarova, N. (2023). Assessment of students' metacognitive skills in the context of education 4.0. *Frontiers in Education, 8*. https://doi.org/10.3389/feduc.2023.1182377
[16]. Reyes-Chua, E., Vargas-Isidro, R., Magnaye, A. D., Merced, J. J., Merced, E. A., Rioveros, G. M., & Alvior, M. G. (2023). Metacognitive strategies of college students at Emilio Aguinaldo College-Cavite, Philippines. *International Journal of Research in STEM Education, 5*(2), 85–93. https://doi.org/10.33830/ijrse.v5i2.1158
[17]. Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Sage Publications.
[18]. Sandelowski, M. (2010). What is in a name? Qualitative description revisited. *Research in Nursing & Health, 33*(1), 77–84. https://doi.org/10.1002/nur.20362
[19]. Tuononen, T., Parpala, A., & Lindblom-Ylänne, S. (2023). Metacognitive awareness in relation to university students' approaches to learning. *Education and Information Technologies, 28*, 1–17. https://doi.org/10.1007/s11409-022-09314-x
[20]. Xue, Y. (2026). Investigating the impact of metacognitive regulation on academic performance in distance learning. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2025.1633996
[21]. Zafar, J. M., & Rasheed, U. (2023). Effect of metacognitive strategies on secondary school students' sustainable learning skills. *Academy of Education and Social Sciences Review, 3*(4), 521–529. https://doi.org/10.48112/aessr.v3i4.601