

The Metacognitive Strategies in Developing the Argumentative Skills of the Grade 10 Learners in Goa District, Division of Camarines Sur

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ARTICLE INFORMATION	ABSTRACT
Article history: Published: October 2026 Keywords: Metacognitive Strategies Argumentative Skills Grade 10 English Teachers Reflective Questioning Goa	The study examined metacognitive strategies and perceived argumentative skills among Grade 10 learners in Goa District, Division of Camarines Sur, during School Year 2025–2026. A descriptive-evaluative-correlational design involved 31 English teachers and a researcher-made questionnaire. Weighted means, frequencies, percentages, ranks, and Kendall's coefficient of concordance with chi-square tests were used at the 0.05 level. Thinking aloud, lesson-plan use, team problem resolution, reflective questioning, and thought organization were rated Very Much Employed. Critical thinking, analysis, organizational skills, writing, and research indicators were rated Very Much Evident. Strategy rankings showed reported significant agreement except for team problem resolution. The reported argumentative-skill p-value thresholds and verbal hypothesis decisions are internally inconsistent, particularly for organizational skills; the numerical results are retained without resolving that conflict. Recommendations emphasized modeling, reflection, research guidance, professional learning, and resource support. The findings describe teacher perceptions and do not establish causal development of argumentative performance. Statistical clarification and direct assessment of learner arguments are necessary before stronger effectiveness claims can be made.

1. Introduction

Argumentation requires learners to organize a position, evaluate evidence, consider alternatives, and communicate a defensible conclusion. Metacognitive instruction addresses how learners plan, monitor, and evaluate those processes. A teacher may make reasoning visible through a think-aloud, ask learners to question an assumption, or support revision of a poorly organized argument. These practices have instructional relevance, but their presence does not automatically establish improvement in the quality of learner arguments.

Graham et al. (2016) recommend explicit writing-strategy instruction using a model–practice–reflect cycle, integration of reading and writing, and assessment-informed feedback for secondary students. This gives a relevant basis for examining teacher modeling, organization, and reflection. The study extends its questionnaire domains beyond writing to critical thinking, analysis, organizational skills, and research. These related abilities may support argumentation, but each requires suitable evidence and cannot be assumed from a general impression of student participation.

The study examined thinking aloud, practicing the lesson plan as a road map, resolving problems as a team, querying self-reflective questions, and organizing thoughts. These domains combine teacher planning with learners' reflective and collaborative activities. Distinguishing them is useful because a well-aligned lesson plan, for example, is an instructional condition, whereas learner monitoring of a claim is a specific metacognitive act. The interpretation of findings therefore depends on the item statements within each domain. The study investigated reported metacognitive-strategy utilization and perceived argumentative skills in Grade 10 in Goa District. It also examined rank-order agreement and formulated policy recommendations. Collaborative professional development provides one potential route for examining teaching examples and learner responses; this is supported institutionally by the Philippine Learning Action Cell policy (Department of Education, 2016). The study's evidence remains questionnaire-based, and its inferential findings concern rankings rather than intervention effects.

2. Methods

2.1 Research design and scope

The study used a descriptive-evaluative-correlational research design in schools in Goa District, Division of Camarines Sur. The stated study period was School Year 2025–2026.

The study assessed reported practices and perceived outcomes through questionnaire responses. Allocation to an intervention, a comparison condition, and repeated outcome measurement were not reported. The findings are interpreted as descriptive evaluations and rank-order analyses; the design label alone does not establish a tested relationship or a causal effect.

2.2 Participants and setting

The study involved 31 English teachers in schools in Goa District, Division of Camarines Sur. The respondents were the raters of the questionnaire indicators; the number of learners represented by their judgments was not reported.

The sampling frame, selection procedure, eligibility criteria, number invited, and response rate were not specified. Consequently, the representativeness of the respondents and the extent to which their judgments describe all schools in the setting cannot be

established. No unreported school-level or respondent-group sample sizes were inferred.

2.3 Instrument and measures

The main data-gathering instrument was a researcher-made questionnaire. It assessed the domains presented in the Results, using indicator-level weighted means and verbal classifications. The response anchors, full scoring rules, interpretation cutoffs, validation procedures, pilot testing and reliability estimates were not reported. Category labels are therefore presented as the study's classifications rather than assigned from an assumed rating scale.

The unit represented in each descriptive table is the stated questionnaire indicator. Reported item means are retained without calculating new domain composites. Duplicate statements remain separate reported entries, and an unreported item value is identified as such where applicable. The ratings do not constitute independently scored learner assessments or administrative measures of school performance.

2.4 Data collection and analysis

Questionnaire administration was the stated data-collection approach. The administration mode, collection dates, instructions to respondents, procedures for incomplete responses, and evidence used by raters were not specified. Ethics review, institutional permission, consent and confidentiality procedures were not reported; no approval or consent process is asserted.

The reported analyses were weighted means, frequency counts, percentages, ranks, and Kendall's coefficient of concordance (W) with corresponding chi-square tests. The significance level was 0.05. The tables retain the reported W values, chi-square values and probability thresholds; exact probabilities were not inferred from inequalities. The group-level ranks, degrees of freedom, tie adjustments and statistical software were not specified.

Kendall's W describes concordance in rankings. The reported significance decisions address agreement in indicator orderings; they do not test causal effects, equality of mean ratings, or the relationship between strategy use and outcomes. No direct strategy–outcome correlation coefficient was reported. Nonsignificant concordance is not interpreted as evidence that an activity was unused or that a learner skill was low.

3. Results

The tables present the reported findings by domain, with interpretation immediately after each presentation. Item statements and values remain in their reported order. Uniform verbal classifications appear in table notes; mixed classifications are displayed by item. No missing numerical results or composite scores have been imputed.

Table 1. Strategy employment in Thinking Aloud

Indicator	Weighted mean
The teacher articulates possible options before choosing a solution	4.72
The teacher models self-questioning to clarify understanding	4.69
The teacher expresses uncertainties and demonstrates how to resolve them	4.68
The teacher explains connections between prior knowledge and new concepts	4.65
The teacher verbalizes step-by-step reasoning while solving a problem	4.64
The teacher highlights decision-making criteria while evaluating alternatives	4.52
the teacher reflects aloud on errors and adjusts strategies accordingly	4.52

Note. All reported indicators were classified as "Very Much Employed."

Table 1 shows reported item means from 4.52 to 4.72. Articulating possible options was prominent, while reflecting on errors and explaining decision criteria were relatively lower. The pattern suggests that showing alternatives and evaluating one's own reasoning may receive different emphasis. For argumentation, the latter processes are relevant to justifying a choice rather than simply listing possibilities.

Table 2. Strategy employment in Practicing Lesson Plan as a Road Map

Indicator	Weighted mean
The teacher aligns instructional activities with clearly stated objectives	4.71
The teacher adjusts instructional pacing according to learners' needs and responses	4.71
The teacher reflects on the effectiveness of the lesson plan and revises it for improvement	4.71
The teacher anticipates potential learner difficulties and prepares strategies to address them	4.68
The teacher organizes lesson content in a logical and sequential manner	4.66
The teacher integrates appropriate teaching methods and materials to support learning goals	4.66
The teacher ensures that assessment tasks are consistent with the intended outcomes	4.66
the teacher uses the lesson plan as a reference point to maintain focus during instruction	4.66

Note. All reported indicators were classified as "Very Much Employed."

Table 2 shows reported item means from 4.66 to 4.71. Objective alignment, pacing and lesson revision shared the strongest rating. The remaining planning practices were also favorably assessed. These indicators describe teacher organization, which may support coherent instruction, but they do not directly measure learners' awareness of their own thinking or their ability to regulate an argument.

Table 3. Strategy employment in Resolving Problem as a Team

Indicator	Weighted mean
The teacher encourages learners to share ideas and perspectives when addressing a problem	4.86
The teacher facilitates group discussions to analyze the nature and causes of the problem	4.85
The teacher promotes collaborative brainstorming of possible solutions	4.85
The teacher guides learners in evaluating the strengths and weaknesses of proposed solutions	4.85
The teacher supports learners in reflecting on the effectiveness of the team's chosen solution	4.84
The teacher reinforces the importance of teamwork and shared accountability in overcoming challenges	4.84
The teacher assigns roles and responsibilities to ensure active participation in problem resolution	4.84
The teacher models respectful listening and values diverse contributions	4.81
the teacher fosters consensus-building and collective decision-making	4.75

Note. All reported indicators were classified as "Very Much Employed."

Table 3 shows reported item means from 4.75 to 4.86. Sharing perspectives and collaborative analysis were prominent in team problem resolution. Consensus building was relatively lower. The distinction suggests that participation does not automatically result in a jointly justified conclusion. The later nonsignificant concordance also limits claims that respondents shared one ordering of collaborative practices.

Table 4. Strategy employment in Querying Self-Reflective Questions

Indicator	Weighted mean
The teacher guides learners to identify errors and consider alternative approaches	4.92
The teacher encourages learners to question their assumptions and biases	4.92
The teacher prompts learners to ask questions about their own understanding of the lesson	4.91
The teacher encourages learners to reflect on the strategies they used to solve tasks	4.91
The teacher models self-reflective questioning aloud to demonstrate metacognitive practice	4.91
The teacher supports learners in setting personal goals based on self-reflection	4.91
The teacher fosters reflection on how prior knowledge influenced current learning	4.90
The teacher asks learners to consider how they can apply learning to real-life contexts	4.89
The teacher asks learners to evaluate the effectiveness of their chosen methods	4.88
the teacher promotes reflection on emotional responses to success and difficulty	4.88

Note. All reported indicators were classified as "Very Much Employed."

Table 4 shows reported item means from 4.88 to 4.92. Error identification and questioning assumptions received the strongest ratings. Evaluation of methods and emotional responses were relatively lower. These practices represent different dimensions of reflection; the table suggests broad endorsement without demonstrating how deeply learners questioned a claim or revised a strategy in actual argumentative work.

Table 5. Strategy employment in Organizing Thoughts

Indicator	Weighted mean
The teacher encourages learners to outline their ideas before engaging in tasks	4.96
The teacher prompts learners to sequence steps logically when solving problems	4.95
The teacher supports learners in identifying main ideas and distinguishing them from details	4.95
The teacher guides learners to categorize information into themes or concepts	4.94
The teacher fosters the use of graphic organizers (e.g., mind maps, charts) to structure thinking	4.94
The teacher models how to connect new information with prior knowledge	4.93

Indicator	Weighted mean
The teacher reinforces the importance of logical flow and coherence in both oral and written outputs	4.93
The teacher asks learners to summarize lessons in their own words to reinforce coherence.	4.92
The teacher encourages learners to compare and contrast ideas to clarify relationships	4.91
The teacher guides learners to identify cause-and-effect relationships in their reasoning	4.91
the teacher promotes reflection on the clarity and organization of learners' responses	4.91

Note. All reported indicators were classified as "Very Much Employed."

Table 5 shows reported item means from 4.91 to 4.96. Outlining and logical sequencing were prominent in organizing thoughts. Reflection on clarity and relational thinking occupied the lower end of a narrow profile. This points toward the difference between preparing a structure and evaluating whether that structure communicates a defensible argument. Actual learner outputs were not scored in the reported findings.

Table 6. Rank-order agreement for metacognitive-strategy employment

Domain	Kendall's W	Chi-square	Reported probability
Thinking Aloud	0.70	12.60	p<0.05
Practicing Lesson Plan as a Road Map	0.81	17.01	p<0.025
Resolving Problem as a Team	0.53	12.72	p>0.05
Querying Self- Reflective Questions	0.74	19.98	p<0.025
Organizing Thoughts	0.88	26.40	p<0.01

Note. Significance level = 0.05. Numerical strings and probability notation are retained as reported; no p-values were recalculated.

Table 6 addresses the research question on rank-order agreement. Significant agreement was reported for thinking aloud, lesson-plan use, reflective questioning and organizing thoughts, with team problem resolution the exception. This pattern concerns the ordering of practices, not whether collaboration was used. Team problem resolution remained favorably classified. The findings therefore suggest examining variation in collaborative priorities rather than assuming collaboration was absent or unsuccessful.

Table 7. Perceived argumentative skills in Critical Thinking

Indicator	Weighted mean
The learner evaluates the credibility and relevance of information sources before forming conclusions	4.68
The learner synthesizes evidence and ideas to construct well-reasoned judgments or positions	4.66
The learner reflects on personal biases and adjusts reasoning to maintain objectivity	4.66
The learner applies logical reasoning to support claims and anticipate counterarguments	4.66
The learner identifies assumptions and distinguishes between fact, opinion, and inference	4.66
The learner analyzes arguments by recognizing logical connections, inconsistencies, or fallacies	4.65
the learner generates alternative perspectives or solutions to a given issue or problem	4.64

Note. All reported indicators were classified as "Very Much Evident."

Table 7 shows reported item means from 4.64 to 4.68. Evaluating source credibility was prominent, while generating alternative perspectives was relatively lower. The pattern suggests a possible instructional emphasis on appraisal rather than divergent consideration. The ratings do not establish performance on critical-thinking tasks, and the reported concordance classification should not be used as a measure of skill level.

Table 8. Perceived argumentative skills in Analysis

Indicator	Weighted mean
The learner recognizes cause-and-effect relationships in issues, problems, or arguments	4.71
The learner detects inconsistencies, contradictions, or gaps in arguments or explanations	4.69
The learner evaluates the strengths and weaknesses of evidence or reasoning presented	4.68
The learner categorizes information into logical groupings or themes to aid understanding	4.68
The learner compares and contrasts different viewpoints, data, or evidence to highlight similarities and differences	4.65

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Indicator	Weighted mean
The learner breaks down complex information into smaller, manageable parts for closer examination	4.64
The learner integrates analytical findings to draw meaningful conclusions or propose informed solutions	4.63
the learner identifies relationships and connections among ideas, concepts, or arguments	4.62

Note. All reported indicators were classified as “Very Much Evident.”

Table 8 shows reported item means from 4.62 to 4.71. Cause-and-effect recognition was prominent within analysis, while identifying connections among concepts was relatively lower. These are complementary demands in argumentation: a learner may identify a causal claim yet still need to integrate it with other evidence. The table represents perceptions rather than a scored analysis of learners’ reasoning.

Table 9. Perceived argumentative skills in Organizational Skills

Indicator	Weighted mean
The learner prioritizes ideas and information according to relevance and importance	4.69
The learner plans tasks and activities systematically to achieve intended outcomes	4.68
The learner arranges arguments and supporting details in a logical sequence	4.67
The learner maintains coherence and unity throughout written or spoken outputs	4.67
The learner integrates transitions and linkages to ensure smooth flow of ideas	4.67
The learner adapts organizational strategies to suit different contexts, audiences, or purposes	4.67
The learner uses outlines, frameworks, or graphic organizers to structure ideas effectively	4.66
The learner reviews and revises work to improve clarity, structure, and overall presentation	4.66
the learner uses outlines, frameworks, or graphic organizers to structure ideas effectively	4.66

Note. All reported indicators were classified as “Very Much Evident.”

Table 9 shows reported item means from 4.66 to 4.69. Prioritizing and planning received favorable ratings, and the graphic-organizer statement appears twice at the same value. The duplicate is retained but reduces confidence that every row represents a distinct competency. The conflicting inferential descriptions later in the study prevent an unqualified conclusion about agreement in this domain.

Table 10. Perceived argumentative skills in Writing

Indicator	Weighted mean
The learner writes with clarity, ensuring ideas are easily understood by the reader	4.68
The learner maintains coherence and logical flow throughout the text	4.67
The learner uses appropriate vocabulary and varied sentence structures to enhance expression	4.67
The learner applies correct grammar, punctuation, and spelling consistently	4.66
The learner organizes content into well-structured paragraphs with clear topic sentences and supporting details	4.65
The learner develops arguments or ideas with sufficient evidence and elaboration	4.65
The learner adapts writing style and tone to suit the purpose, audience, and context	4.64
The learner integrates transitions to connect ideas smoothly across sentences and paragraphs	4.64
The learner revises and edits drafts to improve clarity, accuracy, and overall quality	4.63
the learner demonstrates originality and creativity in presenting ideas while avoiding plagiarism	4.61

Note. All reported indicators were classified as “Very Much Evident.”

Table 10 shows reported item means from 4.61 to 4.68. Clarity and coherence were prominent in writing, while originality and avoidance of plagiarism occupied the lower end. This suggests that presentation and independent authorship should be considered separately. The questionnaire does not provide evidence of actual plagiarism or independently scored originality, so those outcomes should not be inferred from a relative ranking.

Table 11. Perceived argumentative skills in Research

Indicator	Weighted mean
The learner reflects on limitations, implications, and recommendations to improve future research practice	4.61

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Indicator	Weighted mean
The learner demonstrates originality and innovation in generating insights or solutions from research	4.60
The learner interprets results critically, linking them to research questions and existing literature	4.55
The learner identifies and formulates clear, researchable questions or problems	4.55
The learner reviews and synthesizes relevant literature to establish a strong theoretical foundation	4.54
The learner selects appropriate research methods and designs to address specific objectives	4.54
The learner organizes and manages data systematically for analysis and interpretation	4.54
The learner presents findings in a clear, coherent, and well-structured format (e.g., reports, papers, presentations)	4.54
The learner applies ethical standards in conducting research, including respect for intellectual property and participants' rights	4.51
The learner uses appropriate statistical or qualitative techniques to analyze findings	4.50
the learner gathers accurate and reliable data using valid instruments and procedures	4.50

Note. All reported indicators were classified as "Very Much Evident."

Table 11 shows reported item means from 4.50 to 4.61. Reflection on research limitations was rated more favorably than data gathering and analysis techniques. This pattern suggests that respondents perceived a difference between discussing research and executing its technical procedures. The broad research items require careful interpretation for Grade 10 and do not constitute direct evidence of methodological competence.

Table 12. Rank-order agreement for the perceived outcome domains

Domain	Kendall's W	Chi-square	Reported probability
Critical Thinking	0.30	5.40	$p > 0.05$
Analysis	0.95	19.95	$p < 0.01$
Organizational Skills	0.59	14.16	$p < 0.01$
Writing	0.85	22.95	$p < 0.01$
Research	0.89	26.70	$p < 0.01$

Note. Significance level = 0.05. Numerical strings and probability notation are retained as reported; no p-values were recalculated.

Table 12 addresses the research question on rank-order agreement. The reported thresholds classify critical thinking as $p > 0.05$ and the other four domains as $p < 0.01$. However, the verbal finding states that null hypotheses were accepted except for critical thinking and organizational skills, while the conclusion lists those two as exceptions to significance. These descriptions conflict. The numerical results are retained without silently selecting a corrected decision; the disputed inference requires the analysis records.

4. Discussion

The strategy findings emphasize classroom organization and reflection alongside collaborative problem resolution. Their instructional logic is compatible with explicit modeling and guided practice, but the design does not isolate which practice contributes to a particular skill. Graham et al. (2016) provide a relevant framework for linking demonstration, practice, reflection, and feedback. The study's ratings indicate favorable judgments about those kinds of processes; they do not replicate the evidence base underlying that guide.

The distinction between general metacognitive activity and argument quality matters. Sharing ideas or arranging an outline may support argumentation, but a strong argument also requires relevant evidence, justified claims, and treatment of alternatives. Similarly, favorable ratings on research processes do not establish competence in selecting methods or validating instruments. Learner products would be needed to determine how these broad questionnaire indicators are expressed in actual argumentative tasks.

The argumentative-skill significance findings cannot support a single uncontested inferential conclusion. The numerical p-value thresholds, the sentence describing accepted null hypotheses, and the concluding exception list are not mutually consistent. The manuscript retains the reported numerical table and treats the disputed verbal decisions as unresolved. It would be inappropriate to silently reverse a hypothesis decision or recompute a p-value without the underlying ranks and analysis specification.

The study's recommendations could be operationalized through review of teaching demonstrations, shared criteria for argumentative writing, and feedback on learner drafts. The Learning Action Cell policy offers an institutional setting for such work (Department of Education, 2016). A subsequent evaluation should connect each instructional routine with a clearly defined outcome and document whether improvements persist across tasks. That evaluation would be distinct from the present survey of teacher judgments.

5. Implications for practice and further research

The study supports using the indicator-level pattern as a starting point for local review. Decisions should connect a stated need with a feasible response and a criterion for judging progress. Relative positions within a favorable profile are not equivalent to measured deficits, and a significant ranking result is not evidence that a proposed policy will work. Recommendations should be implemented with attention to context and evaluated rather than assumed effective.

Further research should use clearly defined outcomes and document how they are measured. Direct performance tasks, observations, or independently recorded school indicators could complement questionnaire ratings. A longitudinal or comparative evaluation could examine change over time, provided the design addresses baseline differences and alternative explanations. These are proposed directions for future work, not procedures undertaken in the study.

6. Conclusion

The study characterized metacognitive strategies as Very Much Employed and argumentative-skill indicators as Very Much Evident. Significant strategy-ranking agreement was reported except for team problem resolution. The argumentative-skill hypothesis decisions remain unresolved because the reported p-value thresholds conflict with the verbal decisions. The descriptive findings support recommendations for modeling, reflection, organization, and guided research, but they do not establish causal improvement in learners' argumentative skills.

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